

Pennsylvania
Curricular Standards
Mathematics - Grade 5
Correlations with Gourmet Curriculum Press, Inc.®
1.800.900.2290

Benchmark Number	Benchmark • Instructional Target	Gourmet Resource	Taught	Tested
1:	Numbers, Number Systems and Number Relationships Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:			
A	• <i>Use expanded notation to represent whole numbers or decimals.</i>	Appetizers 1 A; Main Dish Objective 1 (Number Concepts) Lesson 1; Applications; Final Tests; Reasonableness Problems; Journal Topics		
B	• <i>Apply number theory concepts to rename a number quantity (e.g., six, 6, 12/2, 3 x 2, 10-4).</i>	Appetizers 1 A; Main Dish Objective 1 (Number Concepts) Lesson 1; Applications; Final Tests; Reasonableness Problems; Journal Topics		
C	• <i>Demonstrate that mathematical operations can represent a variety of problem situations.</i>	Appetizers 2 A; Main Dish Objective 2 (Mathematical Relations) Lesson 1; Applications; Final Tests; Reasonableness Problems; Journal Topics		
D	• <i>Use models to represent fractions and decimals.</i>	Appetizers 1 C & D; 6 D; Main Dish Objectives 1 (Number Concepts) Lessons 3 & 4; 6 (Addition) Lesson 4; Applications; Final Tests; Reasonableness Problems; Journal Topics		
E	• <i>Explain the concepts of prime and composite numbers.</i>	Appetizers 1 F; Main Dish Objective 1 (Number Concepts) Lesson 6; Applications; Final Tests; Reasonableness Problems; Journal Topics		

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F	<ul style="list-style-type: none"> Use simple concepts of negative numbers (e.g., on a number line, in counting, in temperature). 	Appetizers 4 B; Main Dish Objective 4 (Measurement) Lesson 2; Applications; Final Tests; Reasonableness Problems; Journal Topics		
G	<ul style="list-style-type: none"> Develop and apply number theory concepts (e.g., primes, factors, multiples, composites) to represent numbers in various ways. 	Appetizers 1 F; Main Dish Objective 1 (Number Concepts) Lesson 6; Applications; Final Tests; Reasonableness Problems; Journal Topics		
2:	<p>Computation and Estimation</p> <p>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</p>			
A	<ul style="list-style-type: none"> Create and solve word problems involving addition, subtraction, multiplication and division of whole numbers. 	Appetizers 6 A; 7 A; 8 A & B; 9 A; Main Dish Objectives 6 (Addition) Lesson 1; 7 (Subtraction) Lesson 1; 8 (Multiplication) Lessons 1 & 2; 9 (Division) Lesson 1; Applications; Final Tests; Reasonableness Problems; Journal Topics		
B	<ul style="list-style-type: none"> Develop and apply algorithms to solve word problems that involve addition, subtraction, and/or multiplication with decimals with and without regrouping. 	Appetizers 6 C & D; 7 B; 8 D; Main Dish Objectives 6 (Addition) Lessons 3 & 4; 7 (Subtraction) Lesson 2; 8 (Multiplication) Lesson 4; Applications; Final Tests; Reasonableness Problems; Journal Topics		
C	<ul style="list-style-type: none"> Develop and apply algorithms to solve word problems that involve addition, subtraction, and/or multiplication with fractions and mixed numbers that include like and unlike denominators. 	Appetizers 6 E, F, & G; 7 C; Main Dish Objectives 6 (Addition) Lessons 5, 6, & 7; 7 (Subtraction) Lesson 3; Applications; Final Tests; Reasonableness Problems; Journal Topics		

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D	<ul style="list-style-type: none"> • <i>Demonstrate the ability to round numbers.</i> 	Appetizers 1 E; 8 C; 10 B; Main Dish Objectives 1 (Number Concepts) Lesson 5; 8 (Multiplication) Lesson 3; 10 (Estimation) Lesson 2; Applications; Final Tests; Reasonableness Problems; Journal Topics		
E	<ul style="list-style-type: none"> • <i>Determine through estimations the reasonableness of answers to problems involving addition, subtraction, multiplication and division of whole numbers.</i> 	Appetizers 10 A, B, C, D, E, F, & G; Main Dish Objective 10 (Estimation) Lessons 1, 2, 3, 4, 5, 6, & 7; Applications; Final Tests; Reasonableness Problems; Journal Topics		
F	<ul style="list-style-type: none"> • <i>Demonstrate skills for using fraction calculators to verify conjectures, confirm computations and explore complex problem-solving situations.</i> 			
G	<ul style="list-style-type: none"> • <i>Apply estimation strategies to a variety of problems including time and money.</i> 	Appetizers 1 E; 10 A, B, C, D, E, F, & G; Main Dish Objectives 1 (Number Concepts) Lesson 5; 10 (Estimation) Lessons 1, 2, 3, 4, 5, 6, & 7; Applications; Final Tests; Reasonableness Problems; Journal Topics		
H	<ul style="list-style-type: none"> • <i>Explain multiplication and division algorithms.</i> 	Appetizers 2 A; 8 A; 9 A; Main Dish Objectives 2 (Mathematical Relations) Lesson 1; 8 (Multiplication) Lesson 1; 9 (Division) Lesson 1; Applications; Final Tests; Reasonableness Problems; Journal Topics		
I	<ul style="list-style-type: none"> • <i>Select a method for computation and explain why it is appropriate.</i> 	All Appetizers; All Main Dish Objectives; Applications; Final Tests; Reasonableness Problems; Journal Topics		

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3:	Measurement and Estimation Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:			
A	• <i>Select and use appropriate instruments and units for measuring quantities (e.g., perimeter, volume, area, weight, time, temperature).</i>	Appetizers 4 A, B, C, D, E, & F; Main Dish Objective 4 (Measurement) Lessons 1, 2, 3, 4, 5, & 6; Applications; Final Tests; Reasonableness Problems; Journal Topics		
B	• <i>Select and use standard tools to measure the size of figures with specified accuracy, including length, width, perimeter, and area.</i>	Appetizers 4 D, E, & F; 11 B; Main Dish Objectives 4 (Measurement) Lessons 4, 5, & 6; 11 (Problem Solving) Lesson 2; Applications; Final Tests; Reasonableness Problems; Journal Topics		
C	• <i>Estimate, refine and verify specified measurements of objects.</i>	Appetizers 4 A & B; 11 B; Main Dish Objectives 4 (Measurement) Lessons 1 & 2; 11 (Problem Solving) Lesson 2; Applications; Final Tests; Reasonableness Problems; Journal Topics		
D	• <i>Convert linear measurements within the same system.</i>	Appetizers 4 B; 11 B; Main Dish Objectives 4 (Measurement) Lesson 2; 11 (Problem Solving) Lesson 2; Applications; Final Tests; Reasonableness Problems; Journal Topics		
E	• <i>Add and subtract measurements.</i>	Appetizers 4 A & B; Main Dish Objective 4 (Measurement) Lessons 1 & 2; Applications; Final Tests; Reasonableness Problems; Journal Topics		

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4:	Mathematical Reasoning and Connections Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:			
A	<ul style="list-style-type: none"> • <i>Compare quantities and magnitudes of numbers.</i> 	Appetizers 1 A; Main Dish Objective 1 (Number Concepts) Lesson 1; Applications; Final Tests; Reasonableness Problems; Journal Topics		
B	<ul style="list-style-type: none"> • <i>Use models, number facts, properties and relationships to check and verify predictions and explain reasoning.</i> 	All Appetizers; All Main Dish Objectives; Applications; Final Tests; Reasonableness Problems; Journal Topics		
C	<ul style="list-style-type: none"> • <i>Draw inductive and deductive conclusions within mathematical contexts.</i> 	All Appetizers; All Main Dish Objectives; Applications; Final Tests; Reasonableness Problems; Journal Topics		
D	<ul style="list-style-type: none"> • <i>Distinguish between relevant and irrelevant information in a mathematical problem.</i> 	Appetizers 11 A; 12 A; Main Dish Objectives 11 (Problem Solving) Lesson 1; 12 (Mathematical Representation) Lesson 1; Applications; Final Tests; Reasonableness Problems; Journal Topics		
E	<ul style="list-style-type: none"> • <i>Interpret statements made with precise language of logic (e.g., “all”, “or”, “every”, “none”, “some”, “or”, “many”).</i> 	Appetizers 6 A, B, C, D, E, F, & G; 7 A, B, & C; 8 A, B, C, & D; 9 A; 11 A; Main Dish Objectives 6 (Addition) Lessons 1, 2, 3, 4, 5, 6, & 7; 7 (Subtraction) Lessons 1, 2, & 3; 8 (Multiplication) Lessons 1, 2, 3, & 4; 9 (Division) Lesson 1; 11 (Problem Solving) Lesson 1; Applications; Final Tests; Reasonableness Problems; Journal Topics		

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F	<ul style="list-style-type: none"> Use statistics to quantify issues (e.g., in social studies, in sciences). 	Appetizers 5 A, B, C, D, & E; 12 B; Main Dish Objectives 5 (Probability/Statistics) Lessons 1, 2, 3, 4, & 5; 12 (Mathematical Representation) Lesson 2; Applications; Final Tests; Reasonableness Problems; Journal Topics		
5:	<p>Mathematical Problem Solving and Communication</p> <p>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</p>			
A	<ul style="list-style-type: none"> Develop a plan to analyze a problem, identify the information needed to solve the problem, carry out the plan, check whether an answer makes sense and explain how the problem was solved. 	All Appetizers; All Main Dish Objectives; Applications; Final Tests; Reasonableness Problems; Journal Topics		
B	<ul style="list-style-type: none"> Use appropriate mathematical terms, vocabulary, language symbols and graphs to explain clearly and logically solutions to problems. 	Appetizers 5 A; Main Dish Objective 5 (Probability/Statistics) Lesson 1; Applications; Final Tests; Reasonableness Problems; Journal Topics		
C	<ul style="list-style-type: none"> Show ideas in a variety of ways, including words, numbers, symbols, pictures, charts, graphs, tables, diagrams and models. 	Appetizers 5 A, B, & C; 12 B; Main Dish Objectives 5 (Probability/Statistics) Lessons 1, 2, & 3; 12 (Mathematical Representation) Lesson 2; Applications; Final Tests; Reasonableness Problems; Journal Topics		
D	<ul style="list-style-type: none"> Connect, extend and generalize problem solutions to other concepts, problems and circumstances in mathematics. 	Interactive discussions through Appetizers		
E	<ul style="list-style-type: none"> Select, use and justify the methods, material and strategies used to solve problems. 	All Appetizers; All Main Dish Objectives; Applications; Final Tests; Reasonableness Problems; Journal Topics		

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F	<ul style="list-style-type: none"> Use appropriate problem-solving strategies (e.g., solving a simpler problem, drawing a picture or diagram). 	Appetizers 11 A, B, & C; Main Dish Objective 11 (Problem Solving) Lessons 1, 2, & 3; Applications; Final Tests; Reasonableness Problems; Journal Topics		
6:	<p>Statistics and Data Analysis</p> <p>Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</p>			
A	<ul style="list-style-type: none"> Organize and display data using pictures, tallies, tables, charts, bar graphs and circle graphs. 	Appetizers 5 B & C; 12 B; Main Dish Objectives 5 (Probability/Statistics) Lessons 2 & 3; 12 (Mathematical Representation) Lesson 2; Applications; Final Tests; Reasonableness Problems; Journal Topics		
B	<ul style="list-style-type: none"> Describe data sets using mean, median, mode and range. 	Appetizers 5 E; Main Dish Objective 5 (Probability/Statistics) Lesson 5; Applications; Final Tests; Reasonableness Problems; Journal Topics		
C	<ul style="list-style-type: none"> Sort data using Venn diagrams. 	All Appetizers; All Main Dish Objectives; Applications; Final Tests; Reasonableness Problems; Journal Topics		
D	<ul style="list-style-type: none"> Predict the likely number of times a condition will occur based in analyzed data. 	Appetizers 5 A & C; Main Dish Objective 5 (Probability/Statistics) Lessons 1 & 3; Applications; Final Tests; Reasonableness Problems; Journal Topics		
E	<ul style="list-style-type: none"> Construct and defend simple conclusions based on data. 	All Appetizers; All Main Dish Objectives; Applications; Final Tests; Reasonableness Problems; Journal Topics		

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7:	Probability and Predictions Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:			
A	<ul style="list-style-type: none"> • <i>Perform simulations with concrete devices (e.g., dice, spinner) to predict the chances of an event occurring.</i> 	Appetizers 5 A & C; Main Dish Objective 5 (Probability/Statistics) Lessons 1 & 3; Applications; Final Tests; Reasonableness Problems; Journal Topics		
B	<ul style="list-style-type: none"> • <i>Determine the fairness of the design of a spinner.</i> 	Appetizers 5 A; Main Dish Objective 5 (Probability/Statistics) Lesson 1; Applications; Final Tests; Reasonableness Problems; Journal Topics		
C	<ul style="list-style-type: none"> • <i>Express probabilities as fractions and decimals.</i> 	Appetizers 5 D; Main Dish Objective 5 (Probability/Statistics) Lesson 4; Applications; Final Tests; Reasonableness Problems; Journal Topics		
D	<ul style="list-style-type: none"> • <i>Compare predictions based on theoretical probability and experimental results.</i> 	Appetizers 5 A & C; Main Dish Objective 5 (Probability/Statistics) Lessons 1 & 3; Applications; Final Tests; Reasonableness Problems; Journal Topics		
E	<ul style="list-style-type: none"> • <i>Calculate the probability of a simple event.</i> 	Appetizers 5 A; Main Dish Objective 5 (Probability/Statistics) Lesson 1; Applications; Final Tests; Reasonableness Problems; Journal Topics		
F	<ul style="list-style-type: none"> • <i>Determine patterns generated as a result of an experiment.</i> 	Appetizers 5 C; Main Dish Objective 5 (Probability/Statistics) Lesson 3; Applications; Final Tests; Reasonableness Problems; Journal Topics		

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G	• <i>Determine the probability of an event involving “and”, “or”, or “not”.</i>			
H	• <i>Predict and determine why some outcomes are certain, more likely, less likely, equally likely or impossible.</i>	Appetizers 5 A; Main Dish Objective 5 (Probability/Statistics) Lesson 1; Applications; Final Tests; Reasonableness Problems; Journal Topics		
I	• <i>Find all possible combinations and arrangements involving a limited number of variables.</i>	Appetizers 5 C; Main Dish Objective 5 (Probability/Statistics) Lesson 3; Applications; Final Tests; Reasonableness Problems; Journal Topics		
J	• <i>Develop a tree diagram and list the elements.</i>	Appetizers 5 C; Main Dish Objective 5 (Probability/Statistics) Lesson 3; Applications; Final Tests; Reasonableness Problems; Journal Topics		
8:	<p>Algebra and Functions Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</p>			
A	• <i>Recognize, reproduce, extend, create and describe patterns, sequences and relationships verbally, numerically, symbolically and graphically, using a variety of materials.</i>	Appetizers 2 B; Main Dish Objective 2 (Mathematical Relations) Lesson 2; Applications; Final Tests; Reasonableness Problems; Journal Topics		
B	• <i>Connect patterns to geometric relations and basic number skills.</i>			
C	• <i>Form rules based on patterns (e.g., an equation that relates pairs in a sequence).</i>			
D	• <i>Use concrete objects and combinations of symbols and numbers to create expressions that model mathematical situations.</i>	Appetizers 11 A; 12 A; Main Dish Objectives 11 (Problem Solving) Lesson 1; 12 (Mathematical Representation) Lesson 1; Applications; Final Tests; Reasonableness Problems; Journal Topics		

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E	<ul style="list-style-type: none"> • <i>Explain the use of combinations of symbols and numbers in expressions, equations and inequalities.</i> 	Appetizers 2 A; Main Dish Objective 2 (Mathematical Relations) Lesson 1; Applications; Final Tests; Reasonableness Problems; Journal Topics		
F	<ul style="list-style-type: none"> • <i>Describe a realistic situation using information given in equations, inequalities, tables or graphs.</i> 	Journal Topics		
G	<ul style="list-style-type: none"> • <i>Select and use appropriate strategies, including concrete materials, to solve number sentences and explain the method of solution.</i> 	Appetizers 11 A; 12 A; Main Dish Objectives 11 (Problem Solving) Lesson 1; 12 (Mathematical Representation) Lesson 1; Applications; Final Tests; Reasonableness Problems; Journal Topics		
H	<ul style="list-style-type: none"> • <i>Locate and identify points on a coordinate system.</i> 	Appetizers 2 D; Main Dish Objective 2 (Mathematical Relations) Lesson 4; Applications; Final Tests; Reasonableness Problems; Journal Topics		
I	<ul style="list-style-type: none"> • <i>Generate functions from tables of data and relate data to corresponding graphs and functions.</i> 	Appetizers 5 B; 12 B; Main Dish Objectives 5 (Probability/Statistics) Lesson 2; 12 (Mathematical Representation) Lesson 2; Applications; Final Tests; Reasonableness Problems; Journal Topics		

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9:	Geometry Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:			
A	• <i>Give formal definitions of geometric figures.</i>	Appetizers 3 A & B; Main Dish Objective 3 (Geometry) Lessons 1 & 2; Applications; Final Tests; Reasonableness Problems; Journal Topics		
B	• <i>Classify and compare triangles and quadrilaterals according to sides or angles.</i>	Appetizers 3 E; Main Dish Objective 3 (Geometry) Lesson 5; Applications; Final Tests; Reasonableness Problems; Journal Topics		
C	• <i>Identify and measure circles, their diameters and their radii.</i>	Appetizers 4 F; 11 B; Main Dish Objectives 4 (Measurement) Lesson 6; 11 (Problem Solving) Lesson 2; Applications; Final Tests; Reasonableness Problems; Journal Topics		
D	• <i>Describe in words how geometric shapes are constructed.</i>	Appetizers 3; Main Dish Objective 3 (Geometry); Applications; Final Tests; Reasonableness Problems; Journal Topics		
E	• <i>Construct two- and three-dimensional shapes and figures using manipulatives, geoboards and computer software.</i>	Appetizers 3; Main Dish Objective 3 (Geometry); Applications; Final Tests; Reasonableness Problems; Journal Topics		
F	• <i>Find familiar solids in the environment and describe them.</i>	Appetizers 3; Main Dish Objective 3 (Geometry); Applications; Final Tests; Reasonableness Problems; Journal Topics		
G	• <i>Create an original tessellation.</i>			

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H	<ul style="list-style-type: none"> Describe the relationship between the perimeter and area of triangles, quadrilaterals and circles. 	Appetizers 3 F; 4 D; Main Dish Objectives 3 (Geometry) Lesson 6; 4 (Measurement) Lesson 4; Applications; Final Tests; Reasonableness Problems; Journal Topics		
I	<ul style="list-style-type: none"> Represent and use the concepts of line, point and plane. 	Appetizers 3 E; Main Dish Objective 3 (Geometry) Lesson 5; Applications; Final Tests; Reasonableness Problems; Journal Topics		
J	<ul style="list-style-type: none"> Define the basic properties of squares, pyramids, parallelograms, quadrilaterals, trapezoids, polygons, rectangles, rhombi, circles, triangles, cubes, prisms, spheres and cylinders. 	Appetizers 3 A & B; Main Dish Objective 3 (Geometry) Lessons 1 & 2; Applications; Final Tests; Reasonableness Problems; Journal Topics		
K	<ul style="list-style-type: none"> Analyze simple transformations of geometric figures and rotations of line segments. 	Appetizers 3 C; Main Dish Objective 3 (Geometry) Lesson 3; Applications; Final Tests; Reasonableness Problems; Journal Topics		
L	<ul style="list-style-type: none"> Identify properties of geometric figures (e.g., parallel, perpendicular, similar, congruent, symmetrical). 	Appetizers 3 D; 11 C; Main Dish Objectives 3 (Geometry) Lesson 4; 11 (Problem Solving) Lesson 3; Applications; Final Tests; Reasonableness Problems; Journal Topics		
10:	<p>Trigonometry Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</p>			
A	<ul style="list-style-type: none"> Identify and compare parts of right triangles, including right angles, acute angles, hypotenuses and legs. 	Appetizers 3 F; Main Dish Objective 3 (Geometry) Lesson 6; Applications; Final Tests; Reasonableness Problems; Journal Topics		
B	<ul style="list-style-type: none"> Create right triangles on a geoboard. 	Appetizers 3 F; Main Dish Objective 3 (Geometry) Lesson 6; Applications; Final Tests; Reasonableness Problems; Journal Topics		

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11:	Concepts of Calculus Pennsylvania’s public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:			
A	<ul style="list-style-type: none"> • <i>Make comparisons of number (e.g., more, less, same, least, most, greater than, less than).</i> 	Appetizers 1 B; 2 C; Main Dish Objectives 1 (Number Concepts) Lesson 2; 2 (Mathematical Relations) Lesson 3; Applications; Final Tests; Reasonableness Problems; Journal Topics		
B	<ul style="list-style-type: none"> • <i>Identify least and greatest values represented in bar and circle graphs.</i> 	Appetizers 5 B; 12 B; Main Dish Objectives 5 (Probability/Statistics) Lesson 2; 12 (Mathematical Representation) Lesson 2; Applications; Final Tests; Reasonableness Problems; Journal Topics		
C	<ul style="list-style-type: none"> • <i>Identify maximum and minimum.</i> 			
D	<ul style="list-style-type: none"> • <i>Describe the relationship between rates of change and time.</i> 			
E	<ul style="list-style-type: none"> • <i>Estimate areas and volumes as the sums of areas of tiles and volumes of cubes.</i> 	Appetizers 4 D, E, & F; 11 B; Main Dish Objectives 4 (Measurement) Lessons 4, 5, & 6; 11 (Problem Solving) Lesson 2; Applications; Final Tests; Reasonableness Problems; Journal Topics		
F	<ul style="list-style-type: none"> • <i>Describe the relationship between the size of the unit of measurement and the estimate of the areas and volumes.</i> 	Appetizers 4 D & E; 11 B; Main Dish Objectives 4 (Measurement) Lessons 4 & 5; 11 (Problem Solving) Lesson 2; Applications; Final Tests; Reasonableness Problems; Journal Topics		