MATH ON CALL © 2004

correlated to

New Mexico Mathematics Content Standards, Benchmarks, and Performance Standards Grades 6-8

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YOUR NEW MEXICO GREAT SOURCE REPRESENTATIVE

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Publisher: Great Source Education Group

Title: Math On Call

ISBN: 0-669-50819-5

NEW MEXICO MATHEMATICS CONTENT STANDARDS, BENCHMARKS, & PERFORMANCE STANDARDS
Publisher Alignment Analyses for Primary Tool of Instruction

This correlation table/matrix is a tool to show alignment with New Mexico's Content Standards, Benchmarks, & Performance Standards and the proposed instructional material considered for adoption. The purpose is to demonstrate how your material can contribute to student achievement as measured against these Content Standards.

Attach a completed copy of this document to each core basal sample you are submitting for review. You will submit 3 copies of each student & teacher edition for each title & other material deemed necessary to provide appropriate instruction, along with these alignment documents at the 2006 June Summer Institute. DO NOT SEND WITH THE RFP.

Mathematics Grade 6

Standard 1: NUMBER AND OPERATIONS: Students will understand numerical concepts and mathematical operations.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.	1. Compare and order rational numbers.	7-9, 18, 20, 39-41, 48-49	
	2. Use equivalent representations for rational numbers (e.g., integers, decimals, fractions, percents, ratios, numbers with whole-number exponents).	17, 22, 24, 26, 36, 43-44, 538	

***Objectives are clearly stated with measurable outcomes at 90% or above.**

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A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.	3. Use appropriate representations of positive rational numbers in the context of real-life applications.	2-26, 28-45, 476-494	
	4. Identify greatest common factor and least common multiples for a set of whole numbers.	66, 68	
	5. Identify and represent on a number line decimals, fractions, mixed numbers, and positive and negative integers.	40, 42, 46-48, 49, 50	

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B. Understand the meaning of operations and how they relate to one another.	1. Calculate multiplication and division problems using contextual situations.	142-170, 171-199	
	2. Factor a whole number into a product of its primes.	56, 58, 60, 61	
	3. Demonstrate the relationship and equivalency among ratios and percents.	442-443	

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B. Understand the meaning of operations and how they relate to one another.	4. Use proportions to solve problems.	428-438	
	5. Explain and perform: • whole number division and express remainders as decimals or appropriately in the context of the problem • addition, subtraction, multiplication, and division with decimals • addition and subtraction with integers • addition, subtraction, and multiplication with fractions and mixed numerals	102-108, 131-136, 158-163, 179-183	
	6. Determine the least common multiple and the greatest common divisor of whole numbers and use them to solve problems with fractions.	The opportunity to address this objective is available on the following pages: 66, 68	

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C. Compute fluently and make reasonable estimates.	1. Estimate quantities involving rational numbers using various estimations.	10, 21, 35, 92-95, 120-124, 149-150, 151, 176, 177, 178	
	2. Use estimates to check reasonableness of results and make predictions in situations involving rational numbers.	The opportunity to address this objective is available on the following pages: 10, 21, 35, 92-95, 120-124, 149-150, 151, 176, 177, 178	
	3. Determine if a problem situation calls for an exact or approximate answer and perform the appropriate computation.	10, 21, 35, 92-95, 120-124, 149-150, 151, 176, 177, 178, 481	

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Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
C. Compute fluently and make reasonable estimates.	4. Compare and order positive and negative fractions, decimals, and mixed numbers and place them on a number line.	The opportunity to address this objective is available on the following pages: 18, 20, 39-41, 48-49	
	5. Convert fractions to decimals and percents and use these representations in estimations, computations, and applications.	44, 442	
	6. Interpret and use ratios in different contexts.	423-427, 429, 430, 434, 435, 547	
	7. Compute and perform multiplication and division of fractions and decimals and apply these procedures to solving problems.	158-163, 184-192	

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Mathematics Grade 6

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Understand patterns, relations, and functions.	1. Solve problems involving proportional relationships.	429-440	
	2. Graph ordered pairs in the coordinate plane.	232, 234-236, 318-320, 485	
	3. Explain and use symbols to represent unknown quantities and variable relationships.	202-205, 232-236, 237-256, 257-261, 482	
	4. Explain and use the relationships among ratios, proportions, and percents.	423-455	
	5. Make generalizations based on observed patterns and relationships.	480, 484, 544-550	

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Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
B. Represent and analyze mathematical situations and structures using algebraic symbols.	1. Solve problems involving proportional relationships.	429-440	
	2. Use letters to represent an unknown in an equation.	202-203, 205, 238-243	
	3. Solve one-step linear equations and inequalities in one variable with positive whole-number solutions.	246-250, 258-260	
	4. Demonstrate that a variable can represent a single quantity that changes.	202, 236	
	5. Demonstrate how changes in one variable affect other variables.	232-236	

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C. Use mathematical models to represent and understand quantitative relationships.	1. Develop and use mathematical models to represent and justify mathematical relationships found in a variety of situations.	The opportunity to address this objective is available throughout the text.	
	2. Create, explain, and use mathematical models such as: • Venn diagrams to show the relationships between the characteristics of two or more sets • equations and inequalities to model numerical relationships • three-dimensional geometric models • graphs, tables, and charts to interpret and analyze data	The opportunity to address this objective is available throughout the text.	

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Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
D. Analyze changes in various contexts.	1. Represent and explain changes using one-step equations with one variable.	241	
	2. Solve problems that involve change using proportional relationships.	377, 434-440, 547	
	3. Use ratios to predict changes in proportional situations.	The opportunity to address this objective is available on the following pages: 371, 376, 377, 379, 380, 430-431, 434-440, 547	
	4. Use tables and symbols to represent and describe proportional and other relationships involving conversions, sequences, and perimeter.	346, 354, 371, 425, 429, 436, 537	
	5. Generate formulas to represent relationships involving changes in perimeter.	The opportunity to address this objective is available on the following pages: 346, 354, 365, 560-561	

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Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Analyze characteristics and properties of two-and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.	1. Identify, describe, and classify the properties of, and the relationships between, plane and solid geometric figures: • measure, identify, and draw angles, perpendicular and parallel lines, rectangles, and triangles by using appropriate tools (e.g., straightedge, ruler, compass, protractor, drawing software) • understand that the sum of angles of any triangle is 180 degrees and the sum of the angles of any quadrilateral is 360 degrees and use this information to solve problems • visualize and draw two-dimensional views of three-dimensional objects made from rectangular solids	324-326, 329-343, 349, 351-353, 358, 360, 361, 362-363, 393-394, 400, 405, 410, 415, 420, 512-523	
	2. Classify angles as right, obtuse, or straight.	331	
	3. Describe the properties of geometric figures that include regular polygons, circles, ellipses, cylinders, cones, spheres, and cubes.	345, 348, 351-352, 358, 360-361, 362-364, 370, 409, 414, 419	

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Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Analyze characteristics and properties of two-and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.	4. Classify polygons as regular or irregular.	The opportunity to address this objective is available on the following pages: 345	
	5. Classify triangles as scalene, isosceles, or equilateral and by angles (i.e., right, acute, and obtuse).	351-353	
	6. Identify angle, line, segment, and ray and use the symbols for each.	321-323, 3329	
	7. Describe the relationship between radius, diameter, and circumference of a circle.	370, 372-373	

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Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
B. Specify locations and describe spatial relationships using coordinate geometry and other representational systems.	1. Use coordinate geometry to describe location on a plane.	318-320	
	2. Recognize skewed lines in space.	324	
C. Apply transformations and use symmetry to analyze mathematical situations.	1. Identify line of symmetry with rotation and scaling.	389	
D. Use visualization, spatial reasoning, and geometric modeling to solve problems.	1. Use appropriate technology, manipulatives, constructions, or drawings to recognize or compare geometric figures.	The opportunity to address this objective is available on the following pages: 345, 351, 358, 362-364, 370, 376-392	

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Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Understand measurable attributes of objects and the units, systems, and process of measurement.	1. Perform multi-step conversions of measurement units to equivalent units within a given system (e.g., 36 inches equals 3 feet or 1 yard).	535-537	
	2. Estimate measurement in both U.S. customary and metric units.	35	
	3. Select and use units of appropriate size and type to measure angles (e.g., degrees, radians), perimeter, area, and capacity in both U.S. customary and metric systems.	The opportunity to address this objective is available on the following pages: 330, 346, 347, 354, 356, 365-368, 375, 512, 535-537	
	4. Use standard units of linear measurement to the nearest sixteenth of an inch; metric measurements to the nearest millimeter.	The opportunity to address this objective is available on the following pages: 346, 354, 365, 535-537	

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Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
B. Apply appropriate techniques, tools, and formulas to determine measurements.	1. Apply various measurement techniques and tools, units of measure, and degrees of accuracy to find accurate rational number representations for length, liquid, weight, perimeter, temperature, and time.	The opportunity to address this objective is available on the following pages: 346, 354, 365, 535-537	
	2. Select and use formulas for perimeters of squares and rectangles.	560-561	
	3. Select and use strategies to estimate measurements including angle measure and capacity.	32, 35, 330	
	4. Select and justify the selection of measurement tools, units of measure, and degrees of accuracy appropriate to the given situation.	The opportunity to address this objective is available on the following pages: 32, 35, 330, 346, 354, 365, 535-537	

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Mathematics Grade 6

Standard 5: **DATA ANALYSIS AND PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.**

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.	1. Use statistical representations to analyze data.	284, 306, 307-313	
	2. Draw and compare different graphical representations of the same data.	The opportunity to address this objective is available on the following pages: 284-306	
	3. Use mean, median, mode, and range to describe data.	273-276	
	4. Sketch circle graphs to display data.	296	

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Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.	5. Solve problems by collecting, organizing, displaying and interpreting data.	262-269, 270-283, 284-306, 307-313	
	6. Compare different samples of a population with the entire population and determine the appropriateness of using a sample	264-269	
	7. Conduct and explain sampling techniques such as observations, surveys, and random sampling for gathering data.	264-269	
	8. Determine the median for a rational number data set containing an odd number of data points.	275	

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Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.	9. Calculate and explain the median for a whole number data set containing an even number of data points.	275	
	10. Explain advantages and disadvantages of using various display formats for a specific data set.	284-306	
	11. Formulate and solve problems by collecting, organizing, displaying, and interpreting data.	The opportunity to address this objective is available on the following pages: 262-269, 270-283, 284-306, 307-313	

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Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
B. Select and use appropriate statistical methods to analyze data.	1. Choose an appropriate graphical format to organize and represent data.	The opportunity to address this objective is available on the following pages: 284-306	
	2. Describe the effects of missing or incorrect data.	The opportunity to address this objective is available on the following pages: 280-283	
	3. Compute and analyze statistical measurements for data sets: • understand how additional data added to data sets may affect the computations of central tendency • understand how the inclusion or exclusion of outliers affects measures of central tendency • know why a specific measure of central tendency provides the most useful information in a given context	The opportunity to address this objective is available on the following pages: 270-283, 308, 312	
	4. Use data samples of a population and describe the characteristics and limitations of the sample.	The opportunity to address this objective is available on the following pages:263-269	

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B. Select and use appropriate statistical methods to analyze data.	5. Identify different ways of selecting a sample (e.g., convenience sampling, responses to a survey, random sampling) and which method makes a sample more representative for a population.	264-267	
	6. Explain how the way a question is asked in a survey might influence the results obtained.	The opportunity to address this objective is available on the following pages: 263-269	
	7. Identify data that represent sampling errors and explain why the sample and the display might be biased.	No specific lesson addresses this objective.	
	8. Identify claims based on statistical data and, in sample cases, evaluate the validity and usefulness of the claims.	No specific lesson addresses this objective.	

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Standard 5: **DATA ANALYSIS AND PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.**

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
C. Develop and evaluate inferences and predictions that are based on data.	1. Identify claims based on statistical data and evaluate the validity of the claim.	No specific lesson addresses this objective.	
	2. Conduct observations, surveys, experiments and/or simulations, record the results in charts, tables, or graphs, and use the results to draw conclusions and make predictions.	264-269, 284-306, 307-313, 461-472	
	3. Find all possible combinations in a given set (e.g., the number of ways a set of books can be arranged on a shelf).	458-460, 464	
	4. Compare expected results with actual results in a simple experiment.	466	

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D. Understand and apply basic concepts of probability.	1. List all possible outcomes for a compound event composed of two independent events and recognize whether an outcome is certain, impossible, likely, or unlikely.	462-464, 468-469	
	2. Determine and compare experimental (empirical) and mathematical (theoretical) probabilities (e.g., flipping two color counters).	466	
	3. Determine theoretical and experimental probabilities and use them to make predictions about events.	462, 466	
	4. Represent all possible outcomes for compound events in an organized way (e.g., tables, grids, tree diagrams) and express the theoretical probability of each outcome.	462, 464-470	

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D. Understand and apply basic concepts of probability.	5. Use data to estimate the probability of future events (e.g., batting averages).	462, 471-472	
	6. Represent probabilities as ratios, proportions, decimals between 0 and 1, and percentages between 0 and 100 and verify that the probabilities computed are reasonable; know that if P is the probability of an event, 1 - P is the probability of the event not occurring.	465-466, 468, 469, 472	
	7. Describe the difference between independent and dependent events and identify situations involving independent or dependent events.	469	

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Mathematics Grade 7

Standard 1: NUMBER AND OPERATIONS: Students will understand numerical concepts and mathematical operations.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.	1. Determine the absolute value of rational numbers.	50-51	
	2. Illustrate the relationships among natural (i.e., counting) numbers, whole numbers, integers, rational and irrational numbers.	2-26, 27-51, 52	

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Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.	3. Use properties of the real-number system to explain reasoning and to formulate and solve real-world problems.	53-85, 476-494	
	4. Read, write, and compare rational numbers in scientific notation (e.g., positive and negative powers of 10) with approximate numbers using scientific notation.	16	
	5. Simplify numerical expressions using order of operations.	207-210, 240	

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Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
B. Understand the meaning of operations and how they relate to one another.	1. Add, subtract, multiply, and divide rational numbers (e.g., integers, fractions, terminating decimals) and take positive rational numbers to whole-number powers.	70-74, 86-199	
	2. Convert terminating decimals into reduced fractions.	22	
	3. Calculate given percentages of quantities and use them to solve problems (e.g., discounts of sales, interest earned, tips, markups, commission, profit, simple interest).	441-455	
	4. Add and subtract fractions with unlike denominators.	107, 135	

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Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
B. Understand the meaning of operations and how they relate to one another.	5. Multiply, divide, and simplify rational numbers by using exponent rules.	The opportunity to address this objective is available on the following pages: 70-75	
	6. Understand the meaning of the absolute value of a number: • interpret the absolute value as the distance of the number from zero on a number line • determine the absolute value of real numbers	50-51	
	7. Find square roots of perfect whole-number squares.	76, 83, 540	
	8. Simplify and evaluate positive rational numbers raised to positive whole-number powers.	76-83, 540	
	9. Solve addition, subtraction, multiplication, and division problems that use positive and negative integers and combinations of these operations.	96-101, 108, 125-130, 136, 152-157, 164, 179-183, 194	

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Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
C. Compute fluently and make reasonable estimates.	1. Use estimation to check reasonableness of results, and use this information to make predictions in situations involving rational numbers, pi, and simple algebraic equations.	10, 92-95, 120-124, 149-151, 176-178	
	2. Convert fractions to decimals and percents and use these representations in estimations, computations, and applications.	26, 65, 44, 442-445, 538	
	3. Read, write, and compare rational numbers in scientific notation (e.g., positive and negative powers of 10) with approximate numbers using scientific notation.	16	

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C. Compute fluently and make reasonable estimates.	4. Calculate the percentage of increases and decreases of a quantity.	446-449	
	5. Add and subtract fractions with unlike denominators.	107, 135	
	6. Use the inverse relationship between raising to a power and extracting the root of a perfect square integer.	70-83, 540	

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Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Understand patterns, relations, and functions.	1. Identify and continue patterns presented in a variety of formats.	480, 484, 544-550	
	2. Represent a variety of relationships using tables, graphs, verbal rules, and possible symbolic notation, and recognize the same general pattern presented in different representations.	232-236, 484, 544-550	
	3. Simplify numerical expressions by applying properties of rational numbers, and justify the process used.	211-230, 240	

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Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Understand patterns, relations, and functions.	4. Interpret and evaluate expressions involving integer powers and simple roots.	The opportunity to address this objective is available on the following pages: 203-204, 206, 540	
	5. Graph and interpret linear functions.	234-236, 246-250	
	6. Solve problems involving rate, average speed, distance, and time.	435	

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Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
B. Represent and analyze mathematical situations and structures using algebraic symbols.	1. Write verbal expressions and sentences as algebraic expressions and equations: • evaluate algebraic expressions • solve simple linear equations • graph and interpret results	203-206, 238-244, 245-250	
	2. Use variables and appropriate operations to write an expression, an equation, or an inequality that represents a verbal description.	203-205, 258	
	3. Use the order of operations to evaluate algebraic expressions.	206-210	

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Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
B. Represent and analyze mathematical situations and structures using algebraic symbols.	4. Simplify numerical expressions by applying properties of rational numbers.	211-230, 240	
	5. Graph linear functions and identify slope as positive or negative.	247-250	
	6. Use letters as variables in mathematical expressions to describe how one quantity changes when a related quantity changes.	202-204	

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Publisher: Great Source Education Group

Title: Math On Call

ISBN: 0-669-50819-5

Mathematics Grade 7

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
C. Use mathematical models to represent and understand quantitative relationships.	1. Create scale models and use them for dimensional drawings.	377-378, 440	
	2. Understand and use the coordinate plane to graph ordered pairs and linear equations.	245-256, 318-320, 485	
	3. Select and use an appropriate model for a particular situation.	The opportunity to address this objective is available throughout the text.	

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Mathematics Grade 7

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
D. Analyze changes in various contexts.	1. Use variables and appropriate operations to write an expression, an equation, and/or an inequality that represents a verbal description involving change.	The opportunity to address this objective is available on the following pages: 202-209, 257-258	
	2. Interpret and evaluate expressions involving integer powers and simple roots as they relate to change.	The opportunity to address this objective is available on the following pages: 203-204, 206, 540	
	3. Graph and interpret linear functions as they are used to solve problems.	234-236, 246-250	
	4. Solve two-step equations and inequalities with one variable over the rational numbers, interpret the solution or solutions in the context from which they arose, and verify the reasonableness of the results.	239-242, 258	

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Mathematics Grade 7

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Analyze characteristics and properties of two-and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.	1. Classify geometric figures as similar or congruent.	376, 381-383	
	2. Understand the concept of a constant (e.g., pi) and use the formulas for the circumference and area of a circle.	202, 372, 375, 562	
	3. Explain and use the Pythagorean theorem.	359	
	4. Determine the radius, diameter, and circumference of a circle and explain their relationship.	370, 372	
	5. Use properties to classify solids including pyramids, cones, prisms, and cylinders.	393, 403-404, 409, 414, 419	

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Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
B. Specify locations and describe spatial relationships using coordinate geometry and other representational systems.	1. Construct and use coordinate graphs to plot simple figures, determine lengths and areas related to them, and determine the image under translations and reflections.	385-386, 388	
C. Apply transformations and use symmetry to analyze mathematical situations.	1. Determine how perimeter and area are affected by changes of scale.	377-378	
D. Use visualization, spatial reasoning, and geometric modeling to solve problems.	1. Compute the perimeter and area of common geometric shapes and use the results to find measures of less common objects.	346, 347, 354, 365, 379, 483	
	2. Identify and describe the properties of two-dimensional figures: • identify angles as vertical, adjacent, complementary, or supplementary and provide descriptions of these terms • use the properties of complementary and supplementary angles and the sum of the angles of a triangle to solve problems involving an unknown angle • draw quadrilaterals and triangles from given information	334-335, 337-338, 342, 348-361, 362-364	

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Mathematics Grade 7

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Understand measurable attributes of objects and the units, systems, and process of measurement.	1. Choose appropriate units of measure and ratios to recognize new equivalences (e.g., 1 square yard equals 9 square feet) to solve problems.	The opportunity to address this objective is available on the following pages: 535-537	
	2. Select and use the appropriate size and type of unit for a given measurement situation.	No specific lesson addresses this objective.	
	3. Compare masses, weights, capacities, geometric measures, times, and temperatures within measurement systems.	535-537	
	4. Approximate the relationship between standard and metric measurement systems (e.g., inches and centimeters, pounds and kilograms, quarts and liters).	535-536	
	5. Use measures expressed as rates and measures expressed as products to solve problems, check the units of the solutions, and analyze the reasonableness of the answer.	435, 437	

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Mathematics Grade 7

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
B. Apply appropriate techniques, tools, and formulas to determine measurements.	1. Apply strategies and formulas to find missing angle measurements in triangles and quadrilaterals.	332-343, 351, 360, 361, 363	
	2. Select and use formulas to determine the circumference of circles and the area of triangles, parallelograms, trapezoids, and circles.	356, 367, 368, 372, 375, 561-562	
	3. Solve problems involving scale factors, ratios, and proportions.	377-380, 424-427, 428-440	

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Title: Math On Call

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Mathematics Grade 7

Standard 5: **DATA ANALYSIS AND PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.**

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.	1. Describe how data representations influence interpretation.	290, 291, 297, 300, 307, 309, 312	
	2. Select and use appropriate representation for presenting collected data and justify the selection.	284-306	
	3. Use measures of central tendency and spread to describe a set of data.	271-276, 280-282	
	4. Choose between median and mode to describe a set of data and justify the choice for a particular situation.	275-276	

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Mathematics Grade 7

Standard 5: **DATA ANALYSIS AND PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.**

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.	5. Determine the quartiles of a data set.	278	
	6. Identify ordered pairs of data from a graph and interpret the data in terms of the situation depicted by the graph.	287-290, 485	
	7. Use various scales and formats to display the same data set.	The opportunity to address this objective is available on the following pages: 286-306	
	8. Identify and explain the misleading representations of data.	283, 290, 312	

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Mathematics Grade 7

Standard 5: **DATA ANALYSIS AND PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.**

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.	9. Collect, organize, and represent data sets that have one or more variables and identify relationships among variables within a data set.	263-269, 284-306	
	10. Compute the minimum, lower quartile, median, upper quartile, and maximum of a data set.	271-272, 275, 278	
	11. Identify and explain the effects of scale and/or interval changes on graphs of whole number data sets.	289-290	
	12. Use and explain sampling techniques (e.g., observations, surveys, and random sampling) for gathering data.	264-268	
	13. Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, identifying missing information, and selecting, collecting, and displaying appropriate data to address the problem.	284-306, 290, 489, 490, 491	

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Mathematics Grade 7

Standard 5: **DATA ANALYSIS AND PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.**

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
B. Select and use appropriate statistical methods to analyze data.	1. Choose and justify appropriate measures of central tendencies (e.g., mean, median, mode, range) to describe given or derived data.	273-276	
	2. Know various ways to display data sets (e.g., stem and leaf plot, box and whisker plot, scatter plots) and use these forms to display a single set of data or to compare two sets of data.	284-306	
	3. Use the analysis of data to make convincing arguments.	307-313	

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Standard 5: **DATA ANALYSIS AND PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.**

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
B. Select and use appropriate statistical methods to analyze data.	4. Use appropriate technology to gather and display data sets and identify the relationships that exist among variables within the data set.	268, 308-309, 508, 510	
	5. Use data samples of a population and describe the characteristics and limitations of the sample.	The opportunity to address this objective is available on the following pages: 263-269	
	6. Identify data that represent sampling errors and explain why the sample and the display might be biased.	No specific lesson addresses this objective.	
	7. Identify claims based on statistical data and evaluate the validity of the claims.	No specific lesson addresses this objective.	

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Mathematics Grade 7

Standard 5: **DATA ANALYSIS AND PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.**

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
C. Develop and evaluate inferences and predictions that are based on data.	1. Formulate and justify mathematical conjectures based on data and a general description of the mathematical question or problem posed.	308-313, 480, 483-485	
	2. Analyze data to make accurate inferences, predictions, and to develop convincing arguments from data displayed in a variety of forms.	307-313	
	3. Approximate a line of best fit for a data set in a scatter plot form and make predictions using the simple equation of that line.	306	

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Standard 5: **DATA ANALYSIS AND PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.**

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
D. Understand and apply basic concepts of probability.	1. Determine the probability of a compound event composed of two independent events.	468-469	
	2. Identify examples of events having the probability of one or zero.	462	
	3. Describe the probability of events using fractions, decimals, and percents.	462, 465	

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Mathematics Grade 7

Standard 5: **DATA ANALYSIS AND PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.**

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
D. Understand and apply basic concepts of probability.	4. Express probability as a fraction, zero, or one.	462, 465	
	5. Use probability to generate convincing arguments, draw conclusions, and make decisions in a variety of situations.	461-472	
	6. Make predictions based on theoretical probabilities of compound events.	466-468	
	7. Determine the probability of a simple event or a compound event composed of simple, independent events.	465-469	

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NEW MEXICO MATHEMATICS CONTENT STANDARDS, BENCHMARKS, & PERFORMANCE STANDARDS
Publisher Alignment Analyses for Primary Tool of Instruction

This correlation table/matrix is a tool to show alignment with New Mexico's Content Standards, Benchmarks, & Performance Standards and the proposed instructional material considered for adoption. The purpose is to demonstrate how your material can contribute to student achievement as measured against these Content Standards.

Attach a completed copy of this document to each core basal sample you are submitting for review. You will submit 3 copies of each student & teacher edition for each title & other material deemed necessary to provide appropriate instruction, along with these alignment documents at the 2006 June Summer Institute. DO NOT SEND WITH THE RFP.

Mathematics Grade 8

Standard 1: NUMBER AND OPERATIONS: Students will understand numerical concepts and mathematical operations.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.	1. Sort numbers by their properties (e.g., prime, composite, square, square root).	54-85	
	2. Demonstrate the magnitude of rational numbers (e.g., trillions to millions).	3-6, 71	

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Mathematics Grade 8

Standard 1: NUMBER AND OPERATIONS: Students will understand numerical concepts and mathematical operations.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
B. Understand the meaning of operations and how they relate to one another.	1. Use real number properties (e.g., commutative, associative, distributive) to perform various computational procedures.	211-230	
	2. Perform arithmetic operations and their inverses (e.g., addition/subtraction, multiplication/division, square roots of perfect squares, cube roots of perfect cubes) on real numbers.	76-83, 87-114, 115-141, 142-170, 171-199	
	3. Find roots of real numbers using calculators.	82	

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Mathematics Grade 8

Standard 1: NUMBER AND OPERATIONS: Students will understand numerical concepts and mathematical operations.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
C. Compute fluently and make reasonable estimates.	1. Formulate algebraic expressions that include real numbers to describe and solve real-world problems.	203-204, 478-479, 481	
	2. Use a variety of computational methods to estimate quantities involving real numbers.	10, 21, 32, 35, 77, 92-95, 120-124, 149-151, 176-178	
	3. Differentiate between rational and irrational numbers.	27, 52	
	4. Use real number properties to perform various computational procedures and explain how they were used.	211-230	

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Mathematics Grade 8

Standard 1: NUMBER AND OPERATIONS: Students will understand numerical concepts and mathematical operations.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
C. Compute fluently and make reasonable estimates.	5. Perform and explain computations with rational numbers, pi, and first-degree algebraic expressions in one variable in a variety of situations.	76-83, 87-114, 115-141, 142-170, 171-199, 203-204, 206, 372-373	
	6. Select and use appropriate forms of rational numbers to solve real-world problems including those involving proportional relationships.	3-26, 27-52, 54-85, 429-440	
	7. Approximate, mentally and with calculators, the value of irrational numbers as they arise from problem situations.	25, 52, 54	
	8. Express numbers in scientific notation (including negative exponents) in appropriate problem situations using a calculator.	The opportunity to address this objective is available on the following page: 16	
	9. Estimate answers and use formulas to solve application problems involving surface area and volume.	396, 397, 401, 402, 407, 408, 412, 412, 417, 418, 421, 422	

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Mathematics Grade 8

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Understand patterns, relations, and functions.	1. Move between numerical, tabular, and graphical representations of linear relationships.	234-236, 246-250	
	2. Use variables to generalize patterns and information presented in tables, charts, and graphs: • graph linear functions noting that the vertical change per unit of horizontal change (the slope of the graph) is always the same • plot the values of quantities whose ratios are always the same, fit a line to the plot, and understand that the slope of the line equals the quantities	246-250	

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Mathematics Grade 8

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
B. Represent and analyze mathematical situations and structures using algebraic symbols.	1. Demonstrate the difference between an equation and an expression.	203	
	2. Solve two-step linear equations and inequalities in one variable with rational solutions.	239-241, 258-259	
	3. Evaluate formulas using substitution.	248, 256, 259, 265, 266-368, 372, 375, 396-397, 401, 402, 407-408, 412-413, 417-418, 421-422, 451-452, 465-466, 472, 560-571	
	4. Demonstrate understanding of the relationships between ratios, proportions, and percents and solve for a missing term in a proportion.	423-455	

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Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
B. Represent and analyze mathematical situations and structures using algebraic symbols.	5. Graph solution sets of linear equations in two variables on the coordinate plane.	247-250	
	6. Formulate and solve problems involving simple linear relationships, find percents of a given number, variable situations, and unknown quantities.	205-206, 234-235, 239-245, 443-453	
	7. Use symbols, variables, expressions, inequalities, equations, and simple systems of equations to represent problem situations that involve variables or unknown quantities.	200-261, 434-438, 443-453, 482	
C. Use mathematical models to represent and understand quantitative relationships.	1. Generate different representations to model a specific numerical relationship given one representation of data (e.g., a table, a graph, an equation, a verbal description).	232-235, 245-248, 476-494	

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Mathematics Grade 8

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
D. Analyze changes in various contexts.	1. Use graphs, tables, and algebraic representations to make predictions and solve problems that involve change.	246-250, 297-299, 446-449, 452-453, 484, 487	
	2. Estimate, find, and justify solutions to problems that involve change using tables, graphs, and algebraic expressions.	246-250, 297-299, 446-449, 452-453, 484, 487	
	3. Use appropriate problem-solving strategies (e.g., drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table or graph, working a simpler problem, writing an algebraic expression or working backward) to solve problems that involve change.	The opportunity to address this objective is available on the following pages: 476-494	

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Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
D. Analyze changes in various contexts.	4. Solve multi-step problems that involve changes in rate, average speed, distance, and time.	The opportunity to address this objective is available on the following pages: 435	
	5. Analyze problems that involve change by identifying relationships, distinguishing relevant from irrelevant information, identifying missing information, sequencing, and observing patterns.	The opportunity to address this objective is available on the following pages: 484, 487, 489, 490	
	6. Generalize a pattern of change using algebra and show the relationship among the equation, graph, and table of values.	The opportunity to address this objective is available on the following pages: 234-235, 244, 247-250, 484	
	7. Recognize the same general pattern of change presented in different representations.	The opportunity to address this objective is available on the following pages: 234-235, 244, 247-250, 484	

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Mathematics Grade 8

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Analyze characteristics and properties of two-and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.	1. Recognize, classify, and discuss properties of all geometric figures including point, line, and plane.	314-327, 329, 332-343, 345-375, 393-394, 399, 403-404, 409, 414, 419	
	2. Identify arc, chord, and semicircle and explain their attributes.	370, 374	
	3. Use the Pythagorean theorem and its converse to find the missing side of a right triangle and the lengths of the other line segments.	359	
B. Specify locations and describe spatial relationships using coordinate geometry and other representational systems.	1. Represent, formulate, and solve distance and geometry problems using the language and symbols of algebra and the coordinate plane and space (e.g., ordered triplets).	The opportunity to address this objective is available on the following pages: 205-206, 318-320	

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Mathematics Grade 8

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
C. Apply transformations and use symmetry to analyze mathematical situations.	1. Describe the symmetry of three-dimensional figures.	389	
	2. Describe and perform single and multiple transformations that include rotation, reflection, translation, and dilation (i.e., shrink or magnify) to two-dimensional figures.	384-390	

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Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
D. Use visualization, spatial reasoning, and geometric modeling to solve problems.	1. Understand angle relationships formed by parallel lines cut by a transversal.	338	
	2. Recognize and apply properties of corresponding parts of similar and congruent triangles and quadrilaterals.	338, 376, 381-383	
	3. Represent and solve problems relating to size, shape, area, and volume using geometric models.	346-347, 354-357, 359, 365-368, 372, 375, 396-397, 401-402, 407-408, 412-413, 417-417, 421-422	
	4. Develop and use formulas for area, perimeter, circumference, and volume.	356, 359, 365-368, 372, 375, 396-397, 402, 408, 413, 418, 422, 560-562, 565-566	
	5. Construct two-dimensional patterns for three-dimensional models (e.g., cylinders, prisms, cones).	395, 406, 411, 416	

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Mathematics Grade 8

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Understand measurable attributes of objects and the units, systems, and process of measurement.	1. Understand the concept of volume and use the appropriate units in common measuring systems (e.g., cubic centimeter, cubic inch, cubic yard) to compute the volume of rectangular solids.	397-398, 402, 408, 413, 418, 422	
	2. Use changes in measurement units (e.g., square inches, cubic feet) to perform conversions from one-, two-, and three-dimensional shapes.	357, 398, 535-537	
B. Apply appropriate techniques, tools, and formulas to determine measurements.	1. Use ratios and proportions to measure hard-to-measure objects.	379-380	
	2. Use estimation to solve problems.	10, 21, 35, 92-95, 120-124, 149-151, 176-178	

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Mathematics Grade 8

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
B. Apply appropriate techniques, tools, and formulas to determine measurements.	3. Use proportional relationships in similar shapes to find missing measurements.	376	
	4. Apply strategies to determine the surface area and volume of prisms, pyramids, and cylinders.	396-397, 401-402, 407-708, 412-413	
	5. Perform conversions with multiple terms between metric and U.S. standard measurement systems.	535-537	
	6. Estimate volume in cubic units.	The opportunity to address this objective is available on the following pages: 397, 402, 408, 413, 418, 422	
	7. Solve simple problems involving rates and derived measurements for such properties as velocity and density.	The opportunity to address this objective is available on the following pages: 435	

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Mathematics Grade 8

Standard 5: **DATA ANALYSIS AND PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.**

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.	1. Represent two numerical variables on a plot, describe how the data points are distributed, and identify relationships that exist between the two variables.	280-283, 300-306, 308-310	
	2. Generate, organize, and interpret real numbers in a variety of situations.	262-313	
	3. Organize, analyze, and display appropriate quantitative and qualitative data to address specific questions including: • frequency distributions • plots • histograms • bar, line, and pie graphs • diagram and pictorial displays • charts and tables	284-306	

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Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.	4. Select the appropriate measure of central tendency to describe a set of data for a particular problem situation.	273-276	
	5. Simulate an event selecting and using different models.	The opportunity to address this objective is available on the following pages: 462-467	
	6. Develop an appropriate strategy using a variety of data from surveys, samplings, estimations, and inferences to address a specific problem.	The opportunity to address this objective is available on the following pages: 264-268, 270-283	

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Standard 5: **DATA ANALYSIS AND PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.**

Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
B. Select and use appropriate statistical methods to analyze data.	1. Use changes in scales, intervals, or categories to help support a particular interpretation of data.	289	
	2. Generate, organize, and interpret real number and other data in a variety of situations.	284-306, 307-313	
	3. Analyze data to make decisions and to develop convincing arguments from data displayed in a variety of formats that include: • plots • distributions • graphs • scatter plots • diagrams • pictorial displays • charts and tables • Venn diagrams	284-306, 307-313	

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B. Select and use appropriate statistical methods to analyze data.	4. Interpret and analyze data from graphical representations and draw simple conclusions (e.g., line of best fit).	307-313	
	5. Evaluate and defend the reasonableness of conclusions drawn from data analysis.	The opportunity to address this objective is available on the following pages: 307-313	
	6. Use appropriate central tendency and spread as a means for effective decision-making in analyzing data and outliers.	271-276, 280-283	
	7. Identify simple graphic misrepresentations and distortions of sets of data (e.g., unequal interval sizes, omission of parts of axis range, scaling).	290	
	8. Use appropriate technology to display data as lists, tables, matrices, graphs, and plots and to analyze the relationships of variables in the data displayed.	504-510	

***Objectives are clearly stated with measurable outcomes at 90% or above.**

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C. Develop and evaluate inferences and predictions that are based on data.	1. Describe how changes in scale, intervals, or categories influence arguments for a particular interpretation of the data.	The opportunity to address this objective is available on the following pages: 287-289	
	2. Describe how reader bias, measurement errors, and display distortion can affect the interpretation of data, predictions, and inferences based on data.	The opportunity to address this objective is available on the following pages: 290, 309, 312	
	3. Conduct simple experiments and/or simulations, record results in charts, tables, or graphs, and use the results to draw conclusions and make predictions.	The opportunity to address this objective is available on the following pages: 262-313, 462-467	
	4. Compare expected results with experimental results and information used in predictions and inferences.	466-467	

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D. Understand and apply basic concepts of probability.	1. Calculate the odds of a desired outcome in a simple experiment.	471-472	
	2. Design and use an appropriate simulation to estimate the probability of a real-world event (e.g., disk toss, cube toss).	461-470	
	3. Explain the relationship between probability and odds and calculate the odds of a desired outcome in a simple experiment.	The opportunity to address this objective is available on the following pages: 461-472	

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Benchmark	Performance Standards	Publisher Citation (pages)	% Meets Standard*
D. Understand and apply basic concepts of probability.	4. Use theoretical or experimental probability to make predictions about real-world events.	The opportunity to address this objective is available on the following pages: 462, 465-467	
	5. Use probability to generate convincing arguments, draw conclusions, and make decisions in a variety of situations.	461-471	
	6. Understand that the probability of two unrelated events occurring is the sum of the two individual possibilities and that the probability of one event following another, in independent trials, is the product of the two probabilities.	468-470	

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