Perfection Learning®
Perfect for YOUR Classroom

West Virginia Academic Standards, Grade 5
correlated to
Academic Language Notebooks, The Language of Math
Level E

Standard 1: Numbers and Operations

M.S.5.1 Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will
• demonstrate understanding of numbers, ways of representing numbers, and relationships among numbers and number systems,
• demonstrate meanings of operations and how they relate to one another, and
• compute fluently and make reasonable estimates.

Standard	Module Number and Name
M.O.5.1.1 read, write, order and compare all whole numbers, fractions, mixed numbers and decimals using multiple strategies (e.g., symbols, manipulatives, number line).	Module 1: Place Value of Whole Numbers and Decimals Module 2: Compare and Order Whole Numbers and Decimals Module 11: Fraction and Mixed Number Concepts and Simplest Form Module 13: Compare and Order Fractions
M.O.5.1.2 demonstrate an understanding of place value of each digit utilizing standard and expanded form in any whole number using powers of 10 [(3 X 105) + (4 X 103) + 7 X 102) + (1 X 101) + 6].	Module 1: Place Value of Whole Numbers and Decimals
M.O.5.1.3 estimate solutions to problems involving whole numbers, decimals, fractions, and percents to determine reasonableness using benchmarks.	Module 5: Estimate Whole Numbers and Decimals Module 6: Problems and Estimation in Multiplication Module 8: Problems and Estimation in Division
M.O.5.1.4 use inductive reasoning to identify the divisibility rules of 2, 3, 5, 9 and 10 and apply the rules to solve application problems.	Module 9: Factors and Divisibility
M.O.5.1.5 determine and apply greatest common factor and lowest common multiple to write equivalent fractions and to real-world problem situations.	Module 10: Common Factors and Common Multiples Module 12: Equivalent Fractions and Simplest Form
M.O.5.1.6 model and write equivalencies of fractions, decimals, percents, and ratios.	Module 12: Equivalent Fractions and Simplest Form Module 27: Percent Module 26: Ratio and Proportion

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Standard	**Module Number and Name**
M.O.5.1.7 analyze and solve application problems and justify reasonableness of solutions in problems involving addition and subtraction of: • fractions and mixed numbers • decimals.	Module 14: Add and Subtract Fractions with Unlike Denominators
M.O.5.1.8 apply the distributive property as it relates to multiplication over addition.	Module 7: Properties of Multiplication
M.O.5.1.9 solve multi-digit whole number division problems using a variety of strategies, including the standard algorithm and justify the solutions.	Module 8: Patterns and Estimation in Division
M.O.5.1.10 demonstrate fluency in addition, subtraction, multiplication and division of whole numbers.	Module 5: Estimate Whole Numbers and Decimals Module 6: Problems and Estimation in Multiplication Module 8: Problems and Estimation in Division
M.O.5.1.11 solve real-world problems involving whole numbers, decimals and fractions using multiple strategies and justify the reasonableness by estimation.	Module 5: Estimate Whole Numbers and Decimals Module 6: Problems and Estimation in Multiplication Module 8: Problems and Estimation in Division
Standard 2: Algebra	
Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will • demonstrate understanding of patterns, relations and functions, • represent and analyze mathematical situations and structures using algebraic symbols, • use mathematical models to represent and understand quantitative relationships, and • analyze change in various contexts.	
Standard	**Module Number and Name**
M.O.5.2.1 use inductive reasoning to find missing elements in a variety of patterns (e.g., square numbers, arithmetic sequences).	Module 30: Functions and Ordered Pairs
M.O.5.2.2 given an input/output model using two operations, determine the rule, output or input.	Module 30: Functions and Ordered Pairs

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Standard	Module Number and Name
M.O.5.2.3 solve simple equations and inequalities using patterns and models of real-world situations, create graphs on number lines of the equations and interpret the results.	Module 30: Functions and Ordered Pairs
M.O.5.2.4 model identify and describe square, prime and composite numbers.	Module 9: Factors and Divisibility

Standard 3: Geometry

M.S.5.3 Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will
• analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships,
• specify locations and describe spatial relationships using coordinate geometry and other representational systems,
• apply transformations and use symmetry to analyze mathematical situations, and
• solve problems using visualization, spatial reasoning, and geometric modeling.

Standard	Module Number and Name
M.S.5.3.1 classify and compare triangles by sides and angles; measure the angles of a triangle using a protractor.	Module 17: Triangles, Quadrilaterals, and Other Polygons
M.S.5.3.2 construct and analyze three-dimensional shapes using properties (i.e. edges, faces or vertices).	Module 20: Solid Figures
M.S.5.3.3 create a design with more than one line of symmetry.	Module 18: Congruence, Transformations, and Symmetry
M.S.5.3.4 construct a circle with a given radius or diameter.	Module 19: Circles
M.S.5.3.5 draw a similar figure using a scale, given a real-world situation.	

Standard 4: Measurement

M.S.5.4 Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will
• demonstrate understanding of measurable attributes of objects and the units, systems, and processes of measurement, and
• apply appropriate techniques, tools and formulas to determine measurements.

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Standard	**Module Number and Name**
M.S.5.4.1 estimate, measure, compare, order and draw lengths of real objects in parts of an inch up to 1/8 of an inch and millimeters.	Module 21: Customary and Metric Measurement of Length, Weight, Mass, and Capacity
M.S.5.4.2 model, calculate and compare area of triangles and parallelograms using multiples strategies (including, but not limited to, formulas).	Module 23: Area, Surface Area, and Volume
M.S.5.4.3 develop strategies (i.e. finding number of same sized units of volume) to determine the volume of a rectangular prism; solve application problems involving estimating or measuring volume of rectangular prisms.	Module 23: Area, Surface Area, and Volume
M.S.5.4.4 describe the effects on the measurements of a two-dimensional shape (such as its perimeter and area) when the shape is changed in some way, justify changes.	Module 18: Congruence, Transformations, and Symmetry
M.S.5.4.5 solve real-world problems requiring conversions within a system of measurement.	Module 21: Customary and Metric Measurement of Length, Weight, Mass, and Capacity
M.S.5.4.6 estimate and/or measure the weight/mass of real objects in ounces, pounds, grams, and kilograms.	Module 21: Customary and Metric Measurement of Length, Weight, Mass, and Capacity
M.S.5.4.7 collect, record, estimate and calculate elapsed times from real-world situations (with and without technology)	
M.S.5.4.8 determine the actual measurements of a figure from a scale drawing, using multiple strategies.	

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Standard 5: Data Analysis and Probability

M.S.5.5 Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will
• formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them,
• select and use appropriate statistical methods to analyze data,
• develop and evaluate inferences and predictions that are based on models, and
• apply and demonstrate an understanding of basic concepts of probability.

Standard	Module Number and Name
M.S.5.5.1 construct a sample space and make a hypothesis as to the probability of a real life situation overtime, test the prediction with experimentation, and present conclusions (with and without technology).	Module 28: Probability
M.S.5.5.2 construct, read, and interpret tables, charts, and graphs including stem and leaf plots to draw reasonable inferences or verify predictions.	Module 24: Make and Read Graphs
M.S.5.5.3 collect and organize real-world data to construct a circle graph (with and without technology), present data and draw conclusions.	
M.S.5.5.4 collect and analyze data using mean, median and mode to determine the best statistical measure.	Module 25: Statistics and Data Analysis