

**West Virginia Academic Standards, Grade 3
correlated to
Academic Language Notebooks, The Language of Math
Level C**

Standard 1: Numbers and Operations

M.S. 3.1 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.3.1.1. Read, write, order, and compare numbers to 10,000 using a variety of strategies (e.g., symbols, manipulatives, number line).	Module 2: Compare and Order Whole Numbers
M.O.3.1.2 Read, write, order, and compare decimals to hundredths, with manipulatives.	Module 27: Decimals
M.O.3.1.3 Identify place value of each digit utilizing standard and expanded form to 10,000.	Module 1: Place Value
M.O.3.1.4 Apply estimation skills (rounding, benchmarks, compatible numbers) to solve and evaluate reasonableness of an answer.	Module 6: Estimate Addition and Subtraction Module 29: Estimate Products and Quotients
M.O.3.1.5 Demonstrate an understanding of fractions as part of a whole/one and as part of a set/group using models and pictorial representations.	Module 25: Fraction Concepts
M.O.3.1.6. Create concrete models and pictorial representations to <ul style="list-style-type: none"> • compare and order fractions with like and unlike denominators, • add and subtract fractions with like denominators, and verify results. 	Module 26: Equivalent Fractions; Compare and Order Fractions
M.O.3.1.7. Use concrete models and pictorial representations to demonstrate an understanding of equivalent fractions, proper and improper fractions, and mixed numbers.	Module 26: Equivalent Fractions

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Standard	Module Number and Name
M.O.3.1.8. Add and subtract 2- and 3-digit whole numbers and money with and without regrouping.	Module 5: Addition and Subtraction Basic Concepts Module 7: Addition and Subtracting with Regrouping Module 4: Count Money and Make Change
M.O.3.1.9. Demonstrate and model multiplication (repeated addition, arrays) and division (repeated subtraction, partitioning).	Module 9: Multiplication Facts Module 10: Division Concepts
M.O.3.1.10 Use and explain the operations of multiplication and division including the properties (e.g., identity element of multiplication, commutative property, property of zero, associative property, inverse operations).	Module 9: Multiplication Facts Module 11: Relation of Multiplication and Division
M.O.3.11 Recall basic multiplication facts and the corresponding division facts.	Module 9: Multiplication Facts Module 11: Relation of Multiplication and Division Module 12: Division Facts Module 28: Multiplication and Division Patterns in Mental Math
M.O.3.12 Model the distributive property in multiplication of 2- and 3-digit numbers by a 1-digit number.	Module 8: Multiplication Concepts
M.O.3.13 Use models to demonstrate division of 2- and 3-digit numbers by a 1-digit number.	Module 30: Division with Remainders
M.O.3.1.14 Create grade-appropriate real-world problems involving any of the four operations using multiple strategies, explain the reasoning used, and justify the procedures selected when presenting solutions.	

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Standard 2: Algebra

M.S. 3.2 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.3.2.1 analyze and extend geometric and numeric patterns.	Module 21: Plane Figures; Module 28: Multiplication and Division Patterns in Mental Math
M.O.3.2.2 create an input/output model using addition, subtraction, multiplication or division.	
Standard	Module Number and Name
M.O.3.2.3 analyze a given pattern and write the rule.	Module 28: Multiplication and Division Patterns in Mental Math Module 9: Multiplication Facts Module 10: Division Concepts Module 11: Relation of Multiplication and Division Module 5: Addition and Subtraction Basic Concepts
M.O.3.2.4 write equivalent numerical expressions and justify equivalency.	Module 8: Multiplication Concepts Module 5: Addition and Subtraction Basic Concepts
M.O.3.2.5 use symbol and letter variables to represent an unknown quantity and determine the value of the variable.	

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Standard 3: Geometry	
<p>M.S. 3.3 Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will</p> <ul style="list-style-type: none"> • 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.O.3.3.1 identify and create new polygons by transforming, combining and decomposing polygons.	Module 22: Congruence, Symmetry, and Transformations
M.O.3.3.2 identify, describe, and classify the following geometric solids according to the number of faces, edges, and vertices: • cube • rectangular solid • cylinder • cone • pyramid	Module 21: Plane Figures
M.O.3.3.3 construct and identify a solid figure from a plane drawing.	Module 23: Solid Figures
M.O.3.3.4 identify, describe and draw lines of symmetry in two-dimensional shapes.	Module 22: Congruence, Symmetry, and Transformations
M.O.3.3.5 model, describe, and draw • lines • rays • angles including right, obtuse, and acute angles.	Module 20: Lines, Line Segments, Rays, and Angles

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Standard	Module Number and Name
M.O.3.3.6 draw an example of a flip, slide and turn (reflection, translation, and rotation) given a model.	Module 22: Congruence, Symmetry, and Transformations
M.O.3.3.7 name the location of a point on a first-quadrant grid, represent using ordered pairs.	
Standard 4: Measurement	
<p>M.S. 3.4 Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will</p> <ul style="list-style-type: none"> • 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. 	
Standard	Module Number and Name
M.O.3.4.1 Within a project based investigation, identify a real life situation, consider a number of variables and use appropriate measurement tools, overtime, make a hypothesis as to the change overtime; with more precision than whole units; <ul style="list-style-type: none"> • length in centimeters and inches, • temperature in Celsius and Fahrenheit • weight/mass in pounds and kilograms, and design and implement a method to collect, organize, and analyze data; analyze results to make a conclusion; evaluate the validity of the hypothesis upon collected data; design a mode of presentation (with and without technology	Module 13: Linear Measurement Module 14: Measurement of Capacity and Weight or Mass Module 18: Collect and Organize Data Module 17: Temperature
M.O.3.4.2 estimate and find the perimeter and area of familiar geometric shapes, using manipulatives, grids, or appropriate measuring tools.	Module 24: Perimeter, Area, and Volume

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Standard	Module Number and Name
M.O.3.4.3 determine the formula of the area of a rectangle and explain reasoning through modeling.	Module 24: Perimeter, Area, and Volume
M.O.3.4.4 read time to 5-minute intervals (am and pm) using analog and digital clocks, compute elapsed time to the quarter-hour using a clock.	Module 15: Clock Time
M.O.3.4.5 identify, count and organize coins and bills to display a variety of price values from real-life examples with a total value of \$100 or less and model making change using manipulatives.	Module 4: Count Money and Make Change
Standard 5: Data Analysis and Probability	
<p>M.S. 3.5 Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will</p> <ul style="list-style-type: none"> • 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.O.3.5.1 collect and organize grade-appropriate real-world data from observation, surveys, and experiments, and identify and construct appropriate ways to display data.	Module 18: Collect and Organize Data
M.O.3.5.2 develop and conduct grade-appropriate experiments using concrete objects (e.g. counters, number cubes, spinners) to determine the likeliness of events and list all outcomes.	
M.O.3.5.3 analyze real-world data represented on a graph using grade-appropriate questions.	Module 18: Collect and Organize Data Module 19: Data and Graphs