

**Numeric Literacy  
Level 4**

<b>State Performance Standards</b>	<b>GLE</b>	<b>Content:</b>	<b>Math IV</b>	<b>Skills</b>	<b>Analytical</b>	<b>Contextual</b>
		<b>Numeration</b>				
	[8] N-1, [9] N-5	NL.NM.04.01	Use, explain, and define order of operations and apply to rational numbers.			
	[8] N-5, [8] N-9, [10] N-8	NL.NM.04.02	Write the prime factorization of a number using exponents.			
	[8] N-8	NL.NM.04.03	Add, subtract, multiply, and divide positive/negative numbers including decimals and fractions.			
	[8]E&C-5	NL.NM.04.04	Model ratios and proportions.			
A1.4.2	[9] N-1, [8] N-2	NL.NM.04.05	Express numbers using powers of ten and scientific notation.			
	[8] N-10, [9] N-6, [10] N-7	NL.NM.04.06	Solve problems with variables using inverse functions, identity, commutative, associative and distributive properties.			
		<b>Measurement</b>				
	[8]E&C-5	NL.MS.04.01	Write and solve rate problems and apply appropriate units for the solution.			
A2.2.1	[7] MEA-2, [9] MEA-1, [10] MEA-1	NL.MS.04.02	Use, compare, and convert between units in the metric and standard systems for length, mass, weight, area, and volume.			
	[8] F&R-3, [7] MEA-3	NL.MS.04.03	Describe and apply relationships between geometric figures to solve problems.			
	[7] F&R-3, [8] F&R-3, [9] F&R-3	NL.MS.04.04	Explain what happens to ratios when changes are made to one or more dimensions of a figure (i.e. how is the area of a square effected if the length is doubled?)			
		<b>Estimation and Computation</b>				
	[8]E&C-1	NL.EC.04.01	Explain when an estimate is appropriate and when an exact answer is needed.			
	[7]F&R-5	NL.EC.04.02	Simplify expressions involving absolute value of real numbers.			
	[9] E&C-1, [10] E&C-1	NL.EC.04.03	Estimate solutions to evaluate reasonableness of results, state whether the estimation is greater than or less than the exact answer.			
A3.2.5, A3.3.3	[9]F&R-6	NL.EC.04.04	Solve problems with variables using equivalent fractions, decimals, or percents.			
	[8]E&C-2	NL.EC.04.05	Multiply and divide rational numbers which include fractions, decimals or percents.			

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	[8] MEA-2	NL.EC.04.06	Solve scaling problems that contain whole numbers, fractions, decimals, and percents using proportions.			
	[9] N-2, [9] E&C-2, [9] E&C-3	NL.EC.04.07	Analyze and solve problems involving exponential forms of numbers.			
	[8]F&R-6	NL.EC.04.08	Solve one and two step equations with and without variables and then use inverse operations to check answers.			
<b>Functions and Relationships</b>						
	[9]F&R-1	NL.FR.04.01	Create a formula to calculate the $n^{\text{th}}$ term in sequential patterns.			
	[9] F&R-1, [10] F&R-1	NL.FR.04.02	Predict an outcome using a pattern from a table or graph.			
	[8] G-9, [9] F&R-2	NL.FR.04.03	Translate and use tables of ordered pairs, graphs on coordinate planes, and linear equations to represent patterns.			
A4.3.5	[10]F&R-1	NL.FR.04.04	Predict the graph of linear and non-linear functions.			
	[10] F&R-2	NL.FR.04.05	Graph equalities and inequalities on a coordinate plane.			
	[7] F&R-6, [8] F&R-6, [9] F&R-6	NL.FR.04.06	Translate multiple step word problems into symbolic expressions, equations or inequalities and solves for unknowns.			
<b>Geometry</b>						
	[8] F&R-2	NL.GO.04.01	Substitute values into a linear equation to make a table of ordered pairs and graphs the points on a coordinate plane.			
	[10] G-1	NL.GO.04.02	Calculate the sum of the angles in any convex polygon.			
	[8]G-4	NL.GO.04.03	Apply the properties of equality and proportionality to solve problems involving congruent or similar shapes.			
	[8]G-6, [8]G-7, [9] G-4	NL.GO.04.04	Estimate and determine volume and surface area of solid figures using manipulative and formulas (i.e. cylinder, cone, sphere, prism, etc.).			
	[8]G-5, [9] G-3, [7] G-4	NL.GO.04.05	Identify and graph reflections, rotations and translations on the coordinate plane and describe these transformations in words.			
	[9] G-1	NL.GO.04.06	Classify, construct and identify properties of angles (compliments, supplements, vertical, etc).			
	[9] G-1	NL.GO.04.07	Calculate an angle indirectly by measuring the supplementary or complimentary angles.			
<b>Statistics and Probability</b>						
	[8] S&P-1, [9] S&P-1	NL.SP.04.01	Collect, display, and analyze data in a variety of visual displays including frequency distributions, box and whisker plots, stem and leaf plots with and without technology.			

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	[7] S&P-2, [8] S&P-2, [9] S&P-2	NL.SP.04.02	Interpret and analyze statistical information found in newspapers, magazines, and graphical displays.			
	[8] S&P-3, [9] S&P-3	NL.SP.04.03	Compute the mean, median, mode, and range for a given set of data and identify the strengths and weaknesses of each.			
	[8] S&P-3, [9] S&P-3	NL.SP.04.04	Justify which measure of central tendency best represents a given data set.			
	[9]S&P-5	NL.SP.04.05	Calculate the probability of events with and without replacement.			
	[7] S&P-6, [8] S&P-6, [9] S&P-7	NL.SP.04.06	Design and conduct a statistical study and communicate the results.			
	<b>Problem Solving</b>					
	[9]PS-1, [10]PS-1, [10]PS-2	NL.PS.04.01.01	Communicate and explain strategies used to solve multi-step word problems in written form.			
	[9]PS-3	NL.PS.04.02.01	Maintain a math journal that expresses goals, successes, and areas for improvement and explains mathematical ideas, solutions, and methods.			
	[9]PS-5	NL.PS.04.03.01	Apply and use calculations in a science discipline, labeling solutions with appropriate units.			
	[9]PS-5	NL.PS.04.04.01	Analyze local, state, and federal tax systems (I.e. property, sales, income, hotel, airport, capital gains)			
	[9]PS-5	NL.PS.04.05.01	Evaluate the workings of a loan and credit card and the application of various types of interest.			