Florida Adult Basic Education Mathematics Standards Matrix

The Mathematics standards are separated into seven strands, as shown. The table below illustrates the nomenclature used to indicate strands, standards, and benchmarks.
To preserve consistent numbering, the convention "a, b, c" is used to distinguish between discrete skills that were brought together from individual grade level standards within a single NRS Level.

The wording in the chart represents a shorthand for each standard. For the full text of each standard and benchmark, please review the Adult Education Curriculum Frameworks.

Legend

Subject	NRS Level	Strand	Standard	Benchmark
MA	L3	NSO	1a	1

MA.L3.NSO.1a Understand the place value of multi-digit numbers.
MA.L3.NSO.1a.1 Express how the value of a digit in a multi-digit whole number changes if the digit moves one place to the left or right.
MA.L3.NSO.1a.2 Read and write multi-digit whole numbers from 0 to 1,000,000 using standard form, expanded form, and word form.
MA.L3.NSO.1a.3 Plot, order, and compare multi-digit whole numbers up to 1,000,000.
MA.L3.NSO.1a.4 Round whole numbers from 0 to 10,000 to the nearest 10,100 or 1,000.
MA.L3.NSO.1a.5 Plot, order, and compare decimals up to the hundredths.

		NRS Level 1	NRS Level 2	NRS Level 3	NRS Level 4	NRS Level 5	NRS Level 6
Number Sense and Operations (NSO)	**NSO.1**	MA.L1.NSO.1 Understand the place value of two-digit whole numbers.	MA.L2.NSO.1 Understand the place value of four-digit whole numbers.	MA.L3.NSO.1a Understand the place value of multi-digit numbers.	MA.L4.NSO.1a Understand negative numbers and absolute value.	MA.L5.NSO.1 Solve problems involving rational numbers and extend the understanding of rational numbers to irrational numbers.	MA.L6.NSO.1 Rewrite expressions involving radicals and rational exponents using the properties of exponents.
				MA.L3.NSO.1b Understand the place value of multi-digit numbers with decimals to the thousandths place.	MA.L4.NSO.1b Rewrite rational numbers in equivalent forms (including fractions, mixed numbers, repeating decimals, and percentages) to solve mathematical and real world problems.		
				MA.L3.NSO.1c Rewrite numbers in equivalent forms.	MA.L4.NSO.1c Solve problems involving rational numbers, including numbers in scientific notation, and extend the understanding of rational numbers to irrational numbers.		
	NSO.2	MA.L1.NSO.2 Understand addition and subtraction with one- and two-digit whole numbers.	MA.L2.NSO.2 Add and subtract multi-digit whole numbers. Understand multiplication and division operations.	MA.L3.NSO.2a Understand operations with multi-digit numbers including decimals.	MA.L4.NSO.2 Add, subtract, multiply and divide rational numbers.		
				MA.L3.NSO.2b Add, subtract, multiply and divide multi-digit numbers.			
	NSO.3				MA.L4.NSO.3 Apply properties of operations to rewrite numbers in equivalent forms.		
Fractions (FR)	**FR.1**		MA.L2.FR.1 Understand fractions as numbers and represent fractions.	MA.L3.FR.1a Understand the relationship between different fractions and fractions and decimals.			
				MA.L3.FR.1b Interpret a fraction as an answer to a division problem.			
	FR.2		MA.L2.FR.2 Order and compare fractions and identify equivalent fractions.	MA.L3.FR.2a Build a foundation of addition, subtraction and multiplication operations with fractions.			
				MA.L3.FR.2b Perform operations with			
Algebraic Reasoning (AR)	**AR.1**	MA.L1.AR.1a Solve addition problems with sums between 0 and 20 and subtraction problems using related facts.	MA.L2.AR.1a Solve addition problems with sums between 0 and 100 and related subtraction problems.	MA.L3.AR.1 Represent and solve problems involving the four operations with whole numbers and fractions.	MA.L4.AR.1a Apply previous understanding of arithmetic expressions to algebraic expressions.	MA.L5.AR.1 Rewrite and generate equivalent algebraic expressions and equations.	MA.L6.AR.1 Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials. Rewrite simple rational expressions in different forms.
					MA.L4.AR.1b Rewrite algebraic expressions in equivalent forms.		
		MA.L1.AR.1b Solve addition problems with sums between 0 and 100 and related subtraction problems.	MA.L2.AR.1b Solve multiplication and division problems.		MA.L4.AR.1c Generate equivalent algebraic expressions.		
	AR.2	MA.L1.AR.2a Develop an understanding of the equal sign.	MA.L2.AR.2a Demonstrate an understanding of equality and addition and subtraction.	MA.L3.AR.2 Demonstrate an understanding of equality, operations with whole numbers, the order of operations and equivalent numerical expressions.	MA.L4.AR.2a Develop an understanding for solving equations and inequalities. Write and solve one-step equations in one variable.	MA.L5.AR.2 Write and graph two-variable linear equations and inequalities to represent relationships between quantities from a table or a written description within a mathematical or real-world context.	MA.L6.AR.2 Given a table, equation, or written description of a quadratic or exponential function, graph that function, and determine its key features.
		MA.L1.AR.2b Understand the relationship between addition and subtraction.	MA.L2.AR.2b Develop an understanding of equality and multiplication and division.		MA.L4.AR.2b Write and solve equations and inequalities in one variable.		
					MA.L4.AR.2c Solve multi-step one-variable equations and inequalities.		
	AR.3		A.L2.AR.3 Develop an understanding of multiplication.	MA.L3.AR.3a Recognize numerical patterns, including patterns that follow a given rule.	MA.L4.AR.3a Understand ratio and unit rate concepts and use them to solve problems.	MA.L5.AR.3 Solve mathematical and real-world problems that are modeled with linear functions and inequalities. Graph and interpret key features	MA.L6.AR.3 Solve and graph mathematical and real-world problems that are modeled with exponential and quadratic functions. Interpret key features and determine constraints in terms of the context. (e.g. problems involving simple interest).
				MA.L3.AR.3b Analyze patterns and relationships between inputs and outputs.	.MA.L4.AR.3b Use percentages and proportional reasoning to solve problems.		
					MA.L4.AR.3c Extend understanding of proportional relationships to two-variable linear equations.		
	AR.4				MA.L4.AR.4 Develop an understanding of two-variable systems of equations.	MA.L5.AR.4 Develop an understanding of two-variable systems of equations.	MA.L6.AR.4 Given a mathematical or real-world context, write and solve a system of two variable linear equations or inequalities algebraically or graphically. Graph the solution set and interpret solutions as viable or nonviable options and represent constraints.
Function (F)	**F.1**				MA.L4.F.1 Define, evaluate and compare functions.	MA.L5.F.1 Understand key features of linear functions and apply to to solve and model real-world situations	MA.L6.F.1 Understand key features of linear, exponential and quadratic functions and apply them to solve and model real-world situations.
Measurement (M)	**M.1**	MA.L1.M.1 Compare and measure the length of objects.	MA.L2.M.1.1 Measure attributes of objects and solve problems involving measurement.	MA.L3.M.1 Measure the length of objects and solve multi-step problems involving measurement and conversions between units.			
	M.2		MA.L2.M.2 Tell time and solve problems involving time and money.	MA.L3.M.2 Solve problems involving time and money.			

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Geometric Reasoning (GR)	**GR.1**	MA.L1.GR.1 Identify and analyze two- and three-dimensional figures based on their defining attributes.	MA.L2.GR.1 Describe and identify relationships between lines and classify quadrilaterals.	MA.L3.GR.1a Draw, classify and measure angles.	MA.L4.GR.1a Model and solve problems involving two-dimensional figures including applying previous understandings of the coordinate plane.	MA.L5.GR.1c Solve mathematical and real-world problems involving postulates, relationships and theorems of lines and angles - including the Pythagorean Theorem and types of angle relationships specific to triangles. Apply precise definitions of geometric terms, as needed.	MA.L6.GR.1a Apply concepts of density based on modeling situations.
				MA.L3.GR.1b Classify two-dimensional figures and three-dimensional figures based on defining attributes.	MA.L4.GR.1b Solve problems involving two-dimensional figures, including circles.		
					MA.L4.GR.1c Develop an understanding of the Pythagorean Theorem and angle relationships involving triangles.		MA.L6.GR.1b Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.
	GR.2		MA.L2.GR.2 Solve problems involving the perimeter and area of rectangles.	MA.L3.GR.2 Solve problems involving the perimeter and area of rectangles using fractional and decimal lengths.	MA.L4.GR.2a Model and solve problems involving three-dimensional figures.	MA.L5.GR.2a Solve mathematical and real-world problems involving the surface area of three dimensional figures limited to right-rectangular pyramids and prisms.	MA.L6.GR.2 Solve mathematical and real-world problems involving the volume and surface area of three dimensional figures limited to cylinders, cones and spheres and apply concepts of density based on volume in modeling situations
					MA.L4.GR.2b Solve problems involving three-dimensional figures, including right circular cylinders.		
					MA.L4.GR.2c Understand similarity and congruence using models and transformations.	MA.L5.GR.2c Understand similarity and congruence using models and transformations.	
	GR.3			MA.L3.GR.3 Solve problems involving the volume of right rectangular prisms.			
	GR.4			MA.L3.GR.4 Plot points and represent problems on the coordinate plane.			
Data Probability (DP)	**DP.1**	MA.L1.DP.1 Collect, represent and interpret data using pictographs and tally marks.	MA.L2.DP.1 Collect, represent and interpret numerical and categorical data.	MA.L3.DP.1 Collect and represent data and find the mean, mode, median or range of a data set.	MA.L4.DP.1a Summarize statistical distributions graphically and numerically.	MA.L5.DP.1a Interpret the data distributions, scale, different components and quantities in the various displays.	MA.L6.DP.1a Solve problems involving univariate and bivariate numerical data.
					MA.L4.DP.1b Represent and interpret numerical and categorical data.	MA.L5.DP.1b Given a set of data, select an appropriate method to represent the data, depending on whether it is numerical or categorical data and on whether it is univariate or bivariate.	MA.L6.DP.1b Construct a two-way frequency table summarizing bivariate categorical data. Interpret joint and marginal frequencies and determine possible associations in terms of a real-world context. Explain the difference between correlation and causation in the
					MA.L4.DP.1c Represent and investigate numerical bivariate data.	MA.L5.DP.1c Given a scatter plot with a line of fit and residuals, determine the strength and direction of the correlation. Interpret strength and direction within a real-world context.	MA.L6.DP.1c Fit a linear function to bivariate numerical data that suggests a linear association and interpret the slope and y-intercept of the model. Use the model to solve real-world problems in terms of the context of the data.
	DP.2				MA.L4.DP.2a Develop an understanding of probability. Find and compare experimental and theoretical probabilities.	MA.L5.DP.2 Develop an understanding of probability. Find and compare experimental and theoretical probabilities.	
					MA.L4.DP.2b Represent and find probabilities of repeated experiments.		