



Alignment Document

State of Wisconsin And Aventa Learning Consumer Math

Consumer Math 2005-2007 Benchmark Blueprint

State Standard Number	State Standard Area / Description	Unit Name	Course Topic Description
A.12	Mathematical Processes		
A.12.1	Use reason and logic to		
A.12.1.a	evaluate information	All About Jobs	Wages and Tips
		Wages	Forms and Time Cards
		Wages	Salary and Commission
		Deductions, Taxes, and Insurance	Payroll Deductions
		Deductions, Taxes, and Insurance	Health and Life Insurance
		Deductions, Taxes, and Insurance	Tables and Graphs
		Deductions, Taxes, and Insurance	Federal Income Tax
		Recreation and Spending	Movies and Events
		Recreation and Spending	Buying Food and Eating Out
		Recreation and Spending	Cost of Recreation
		Recreation and Spending	Buying Clothes and Shopping
		Transportation	Transportation
		Transportation	Taking Road Trips
		Personal Finances	Net Worth and Purchasing Power
		Personal Finances	Budgets
		Checking and Savings Accounts	Exponential Equations

		Checking and Savings Accounts	Checking Accounts
		Checking and Savings Accounts	Savings Accounts
		Credit	Using Credit Cards
		Credit	Loans
		Credit	Installment Buying
		Automobile Expenses	Buying an Automobile
		Automobile Expenses	Operating Expenses
		Automobile Expenses	Auto Insurance
		Automobile Expenses	Other Car Topics
		Housing	Renting an Apartment
		Housing	Buying a House
		Housing	Taxes and Insurance
		Housing	Decorating and Remodeling
A.12.1.b	perceive patterns	Personal Finances	Linear Equations
		Checking and Savings Accounts	Exponential Equations
A.12.1.c	identify relationships	Personal Finances	Linear Equations
		Checking and Savings Accounts	Exponential Equations
A.12.1.d	formulate questions, pose problems, and make and test conjectures		
A.12.1.e	pursue ideas that lead to further understanding and deeper insight		
A.12.2	Communicate logical arguments and clearly show		
A.12.2.a	why a result does or does not make sense		
A.12.2.b	why the reasoning is or is not valid		
A.12.2.c	an understanding of the difference between examples that support a conjecture and a proof of the conjecture		
A.12.3	Analyze non-routine problems and arrive at solutions by various means, including models and simulations, often starting with provisional conjectures and progressing, directly or indirectly, to a solution, justification, or counter-example		

A.12.4	Develop effective oral and written presentations employing correct mathematical terminology, notation, symbols, and conventions for mathematical arguments and display of data		
A.12.5	Organize work and present mathematical procedures and results clearly, systematically, succinctly, and correctly	Housing	Unit Open Response-Furnishing and Decorating a Room
		All About Jobs	Unit Open Response-Job Search
		Wages	Unit Open Response-Adjusting Recipes and Dog House Dimensions
		Deductions, Taxes, and Insurance	Filling out 1040 EZ
		Deductions, Taxes, and Insurance	Unit Open Response-Health Insurance-Gross Pay-Percent Take Home
		Recreation and Spending	Unit Open Response-Catalog Order-Funding Recreation-Circle Graph
		Transportation	Unit Open Response-Planning and Paying for a Road Trip
		Personal Finances	Assignment 1 Writing and Graphing Linear Equations by Tables
		Personal Finances	Assignment 2 Writing and Graphing Linear Equations by Slope and Intercept
		Personal Finances	Unit Open Response-Comparing Consumer Costs
		Checking and Savings Accounts	Discussion-Comparing Banks
		Checking and Savings Accounts	Written Assignment 3-Growth of Ticket Prices
		Checking and Savings Accounts	Open Response-Managing Checking and Savings
		Credit	Unit Open Response-Managing Loans and Credit
		Automobile Expenses	Unit Open Response-Comparing Cars



A.12.6	Read and understand		
A.12.6.a	mathematical texts and other instructional materials	All About Jobs	Wages and Tips
		Wages	Forms and Time Cards
		Wages	Salary and Commission
		Deductions, Taxes, and Insurance	Payroll Deductions
		Deductions, Taxes, and Insurance	Health and Life Insurance
		Deductions, Taxes, and Insurance	Tables and Graphs
		Deductions, Taxes, and Insurance	Federal Income Tax
		Recreation and Spending	Movies and Events
		Recreation and Spending	Buying Food and Eating Out
		Recreation and Spending	Cost of Recreation
		Recreation and Spending	Buying Clothes and Shopping
		Transportation	Transportation
		Transportation	Taking Road Trips
		Personal Finances	Net Worth and Purchasing Power
		Personal Finances	Budgets
		Checking and Savings Accounts	Exponential Equations
		Checking and Savings Accounts	Checking Accounts
		Checking and Savings Accounts	Savings Accounts
		Credit Topics	Using Credit Cards
		Credit Topics	Loans
		Credit Topics	Installment Buying
		Automobile Expenses	Buying an Automobile
		Automobile Expenses	Operating Expenses
		Automobile Expenses	Auto Insurance
		Automobile Expenses	Other Car Topics
		Housing	Renting an Apartment
		Housing	Buying a House
		Housing	Taxes and Insurance
		Housing	Decorating and Remodeling

A.12.6.b	writing about mathematics (e.g., articles in journals)	Recreations and Spending	Discussion-Sales Tax
		Checking and Savings	Discussion-Comparing Banks
0	mathematical ideas as they are used in other contexts	Checking and Savings Accounts	The Check Register
0	mathematical ideas as they are used in other contexts	Checking and Savings Accounts	Savings Accounts
0	mathematical ideas as they are used in other contexts	Automobile Expenses	Used Cars
B.12	Number Operations and Relationships		
B.12.1	Use complex counting procedures such as union and intersection of sets and arrangements (permutations and combinations) to solve problems		
B.12.2	Compare real numbers using		
B.12.2.a	order relations ($>$, $<$) and transitivity		
B.12.2.b	ordinal scales including logarithmic (e.g., Richter, pH rating)		
B.12.2.c	arithmetic differences		
B.12.2.d	ratios, proportions, percents, rates of change	Personal Finances	Purchasing Power
		All about jobs	Percent of a Number
		Personal Finances	Budgets
		Recreation and Spending	Health Clubs and Fitness Classes
		Personal Finances	Budgeting Expenses
		Transportation	Busses, Trains, Subways, and Taxis
		Housing	Scale Drawings
B.12.3	Perform and explain operations on real numbers (add, subtract, multiply, divide, raise to a power, extract a root, take opposites and reciprocals, determine absolute value)	All About Jobs	Decimal Review
		All About Jobs	Review of Percents
		All About Jobs	Order of Operations
		Wages	Review of Fractions
		Wages	Review of Equations



B.12.4	In problem-solving situations involving the application of different number systems (natural, integers, rational, real) select and use appropriate		
B.12.4.a	computational procedures	All About Jobs	Decimal Review
		All About Jobs	Review of Percents
		All About Jobs	Order of Operations
		Wages	Review of Fractions
		Wages	Review of Equations
B.12.4.b	properties (e.g., commutativity, associativity, inverses)		
B.12.4.c	modes of representation (e.g., rationals as repeating decimals, indicated roots as fractional exponents)		
B.12.5	Create and critically evaluate numerical arguments presented in a variety of classroom and real-world situations (e.g., political, economic, scientific, social)		
B.12.6	Routinely assess the acceptable limits of error when		
B.12.6.a	evaluating strategies	All About Jobs	Decimal Review
		All About Jobs	Review of Percents
B.12.6.b	testing the reasonableness of results		
B.12.6.c	using technology to carry out computations		
C.12	Geometry		
C.12.1	Identify, describe, and analyze properties of figures, relationships among figures, and relationships among their parts by		
C.12.1.a	constructing physical models	Housing	Scale Models
C.12.1.b	drawing precisely with paper-and-pencil, hand calculators, and computer software	Housing	Scale Models
C.12.1.c	using appropriate transformations (e.g., translations, rotations, reflections, enlargements)		
C.12.1.d	using reason and logic		
C.12.2	Use geometric models to solve mathematical and real-world problems	Housing	Decorating and Remodeling
		Housing	Scale Models

C.12.3	Present convincing arguments by means of demonstration, informal proof, counter-examples, or any other logical means to show the truth of		
C.12.3.a	statements (e.g., these two triangles are not congruent)		
C.12.3.b	generalizations (e.g., the Pythagorean theorem holds for all right triangles)		
C.12.4	Use the two-dimensional rectangular coordinate system and algebraic procedures to describe and characterize geometric properties and relationships such as slope, intercepts, parallelism, and perpendicularity	Personal Finances	Coordinate Plane and Linear Equations
C.12.5	Identify and demonstrate an understanding of the three ratios used in right-triangle trigonometry (sine, cosine, tangent)		
D.12	Measurement		
D.12.1	Identify, describe, and use derived attributes (e.g., density, speed, acceleration, pressure) to represent and solve problem situations	Transportation	Transportation ($d = rt$)
D.12.2	Select and use tools with appropriate degree of precision to determine measurements directly within specified degrees of accuracy and error (tolerance)		
D.12.3	Determine measurements indirectly, using		
D.12.3.a	estimation	Housing	Decorating and Remodeling
D.12.3.b	proportional reasoning, including those involving squaring and cubing (e.g., reasoning that areas of circles are proportional to the squares of their radii)	Housing	Scale Drawings
D.12.3.c	techniques of algebra, geometry, and right triangle trigonometry	Housing	Decorating and Remodeling
		Housing	Scale Drawings



D.12.3.d	formulas in applications (e.g., for compound interest, distance formula)	Wages	Evaluating Expressions and Formulas
		Wages	Time Sheets And Time Cards
		Recreation and Spending	Buying Clothes and Shopping
		Recreation and Spending	Buying Clothes
		Recreation and Spending	Eating Out
		Transportation	Distance
		Transportation	Estimating Using Mileage Charts
		Transportation	Busses, Trains, Subways, and Taxis
		Housing	Taxes and Insurance
		Housing	Homeowner's Insurance
		Deductions, Taxes, and Insurance	Payroll Deductions
		Deductions, Taxes, and Insurance	Health and Life Insurance
		Deductions, Taxes, and Insurance	Federal Income Tax
		Checking and Savings Accounts	Compound Interest
		Checking and Savings Accounts	Savings and Graphs
D.12.3.e	geometric formulas to derive lengths, areas, or volumes of shapes and objects (e.g., cones, parallelograms, cylinders, pyramids)	Housing	Decorating and Remodeling (rectangle area and perimeter)
D.12.3.f	geometric relationships and properties of circles and polygons (e.g., size of central angles, area of a sector of a circle)		
D.12.3.g	conversion constants to relate measures in one system to another (e.g., meters to feet, dollars to Deutschmarks)		
E.12	Statistics and Probability		
E.12.1	Work with data in the context of real-world situations by		
E.12.1.a	formulating hypotheses that lead to collection and analysis of one- and two-variable data		

E.12.1.b	designing a data collection plan that considers random sampling, control groups, the role of assumptions, etc.		
E.12.1.c	conducting an investigation based on that plan		
E.12.1.d	using technology to generate displays, summary statistics, and presentations		
E.12.2	Organize and display data from statistical investigations using		
E.12.2.a	frequency distributions		
E.12.2.b	percentiles, quartiles, deciles		
E.12.2.c	line of best fit (estimated regression line)		
E.12.2.d	matrices		
E.12.3	Interpret and analyze information from organized and displayed data when given		
E.12.3.a	measures of dispersion, including standard deviation and variance		
E.12.3.b	measures of reliability		
E.12.3.c	measures of correlation		
E.12.4	Analyze, evaluate, and critique the methods and conclusions of statistical experiments reported in journals, magazines, news media, advertising, etc.		
E.12.5	Determine the likelihood of occurrence of complex events by		
E.12.5.a	using a variety of strategies (e.g., combinations) to identify possible outcomes		
E.12.5.b	conducting an experiment		
E.12.5.c	designing and conducting simulations		
E.12.5.d	applying theoretical probability		
F.12	Algebraic Relationships		
F.12.1	Analyze and generalize patterns of change (e.g., direct and inverse variation) and numerical sequences, and then represent them with algebraic expressions and equations		



F.12.2	Use mathematical functions (e.g., linear, exponential, quadratic, power) in a variety of ways, including		
F.12.2.a	recognizing that a variety of mathematical and real-world phenomena can be modeled by the same type of function	Personal Finances	Coordinate Plane and Linear Functions
		Personal Finances	Net Worth and Purchasing Power
		Checking and Savings Accounts	Exponential Equations
		Checking and Savings Accounts	Checking Accounts
		Checking and Savings Accounts	Savings Accounts
F.12.2.b	translating different forms of representing them (e.g., tables, graphs, functional notation, formulas)	Recreation and Spending	Buying Clothes
		Recreation and Spending	Buying Clothes and Shopping
		Checking and Savings Accounts	Graphing Exponential Equations
		Checking and Savings Accounts	Plotting a Decay Curve
		Checking and Savings Accounts	Exponential Graphs
		Wages	Time Sheets And Time Cards
		Personal Finances	Graphing Using Slope and Y-Intercept
		Personal Finances	Purchasing Power
		Deductions, Taxes, and Insurance	Federal Income Tax
		Housing	Homeowner's Insurance
F.12.2.c	describing the relationships among variable quantities in a problem	Transportation	Distance
		Personal Finances	Linear Equations and Graphing Linear Equations
		Checking and Savings Accounts	Exponential Equations
		Checking and Savings Accounts	Growth and Decay

F.12.2.d	using appropriate technology to interpret properties of their graphical representations (e.g., intercepts, slopes, rates of change, changes in rates of change, maximum, minimum)		
F.12.3	Solve linear and quadratic equations, linear inequalities, and systems of linear equations and inequalities		
F.12.3.a	numerically	Wages	Review of Equations
		Personal Finances	Graphing an Equation Using Points
		Checking and Savings Accounts	Growth and Decay
F.12.3.b	graphically, including use of appropriate technology		
F.12.3.c	symbolically, including use of the quadratic formula		
F.12.4	Model and solve a variety of mathematical and real-world problems by using algebraic expressions, equations, and inequalities	Wages	Review of Equations
		Wages	Solving Two-Step Equations
		Wages	Evaluating Expressions and Formulas
		Wages	Salary and Commission
		Wages	Solving Equations: Addition and Subtraction
		Wages	Commission
		Wages	Solving Equations: Multiplication and Division
		Checking and Savings Accounts	Exponential Equations
		Personal Finances	The Costs of Raising a Family