



Literacy and Intervention

WISCONSIN STATE STANDARDS

Academy of MATH[®]

Proven to Raise Achievement for Struggling Students

Grades 2–12



Academy of MATH and Wisconsin 5th grade Mathematics

Wisconsin Standard A Mathematical Processes	Lesson in Academy of MATH®	
Look for a growing pattern to solve a problem.		Levels 1-6: Number Sense Levels 3-5: Addition, Subtraction
Recognize characteristics of odd and even numbers.		Levels 2, 6: Number Sense Level 4: Addition
Extend a repeating pattern of geometric shapes in a grid.		Level 2: Geometry
Determine the required information for solving a difficult problem and whether any further information is needed.		Levels 5-8: Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Graphs
Use pictures, diagrams, or systematic lists to represent problems.		Levels 1-4: Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Graphs
Use a structured model to solve problems using a variety of strategies: draws picture, looks for patterns, makes a table or organized list, makes a problem simpler, uses process of elimination, uses trial and error, works backward, uses models.		Levels 5-8: Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Graphs
Verify the reasonableness of results of more difficult problems.		Levels 5-8: Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Graphs
Use manipulatives and models to demonstrate thinking processes.		Levels 1-4: Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Graphs
Solve real-world problems using reasoning strategies.		Levels 1-8: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Graphs
Apply a problem solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness.		Levels 1-8: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Graphs



	Use number sense strategies to solve problems (multiplication/division).	Levels 1-8: Multiplication, Division
	Evaluate number sense strategies used to solve problems.	Levels 1-8: Number Sense, Addition, Subtraction, Multiplication, Division, Fractions, Equations, Measurement, Graphs
	Explain different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers).	Levels 2-4: Division, Fractions

Wisconsin Standard B Number Operations & Relationships		Lesson in Academy of MATH®
	Write whole numbers in standard and expanded form through the hundred thousands.	Levels 1-5: Number Sense
	Round 4-, 5- and 6-digit whole numbers to the nearest hundred.	Levels 4-5: Number Sense, Addition, Subtraction
	Round 4-, 5- and 6-digit whole numbers to the nearest thousand.	Levels 4-5: Number Sense, Addition, Subtraction
	Round 4-, 5- and 6-digit whole numbers to the nearest ten thousand.	Level 5: Number Sense, Addition, Subtraction
	Write improper fractions and mixed numbers from a visual presentation.	Level 3: Fractions Levels 3-4: Measurement
	Express "1" in many different ways (e.g., $\frac{3}{3}$, $\frac{4}{4}$).	Level 4: Fractions
	Express improper fractions as whole numbers (e.g., $\frac{4}{2} = 2$).	Level 5: Fractions
	Determine simple equivalent fractions using multiples.	Levels 4-5: Fractions
	Identify fractions in lowest terms from a region or set.	Level 4: Fractions
	Identify eighths, reduced to lowest terms, from a region or set.	Level 4: Fractions





	Compare fractions greater than or less than a given fraction using visual representations.	Levels 2-4: Fractions
	Compare fractions and mixed numbers.	Levels 2-5: Fractions
	Compare fractions and mixed numbers using symbols.	Levels 4-5: Fractions
	Determine factors of a whole number.	Levels 5-8: Multiplication Level 7: Division
	Complete a factor tree for a number (prime factorization).	Levels 6, 8: Multiplication
	Determine multiples of a whole number.	Levels 5-8: Multiplication Level 7: Division
	Determine common multiples of whole numbers.	Levels 5-8: Multiplication Level 7: Division
	Apply rules of divisibility by 5's.	Level 8: Division

Wisconsin Standard B Number Operations & Relationships		Lesson in Academy of MATH®
	Subtract numbers with 5 digits or more with regrouping.	Levels 4-8: Subtraction
	Predict the relative size of the answer when adding whole numbers.	Levels 4-7: Addition
	Add fractions with like denominators without reducing.	Level 4: Fractions
	Add fractions with like denominators with reducing or converting to a mixed fraction.	Level 5: Fractions
	Add fractions with unlike denominators without reducing.	Level 5: Fractions





	Add mixed fractions with like denominators.	Level 5: Fractions
	Add simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths).	Level 5: Fractions
	Subtract fractions with unlike denominators without reducing.	Level 5: Fractions
	Subtract mixed fractions with like denominators with no regrouping.	Level 5: Fractions
	Subtract mixed fractions with unlike denominators with no regrouping.	Level 5: Fractions
	Solve real-world problems involving addition and subtraction of fractions where converting one denominator is necessary.	Levels 5-8: Fractions
	Analyze and compute 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only).	Level 4: Measurement
	Instantly recall basic multiplication and division facts.	Levels 3-4: Multiplication, Division
	Multiply a 2-digit number by a 2-digit number with regrouping.	Level 4: Multiplication
	Multiply a 3-digit number by a 2-digit number with regrouping.	Level 4: Multiplication
	Perform mental computation with multiplication.	Levels 3-5: Multiplication
	Multiply a 3-digit number by a 3-digit number.	Level 5: Multiplication
	Multiply a 4- or more digit number by multiples of 100 or 1000.	Level 5: Multiplication
	Multiply multiple-digit numbers.	Levels 4-8: Multiplication





Wisconsin Standard B Number Operations & Relationships		Lesson in Academy of MATH®
	Model whole number multiplication and division algorithms (e.g., use physical materials to show 4 groups of 3 objects).	Levels 1-4: Multiplication, Division
	Divide a 2- or 3-digit number by a 1-digit number with a remainder.	Level 4: Division
	Perform mental computation with division.	Levels 3-4: Division
	Divide a 3-digit number by a 2-digit number.	Level 5: Division
	Divide a 4-digit number by a 2-digit number.	Level 5: Division
	Solve problems using the inverse relationship between multiplication and division.	Levels 3-4: Division Levels 3-5: Equations
	Divide multiple-digit numbers.	Levels 5-8: Division
	Solve whole number word problems with division over 10×10 .	Levels 4-8: Division
	Solve complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor).	Levels 5-8: Division
	Solve real-world problems involving 2-step multiple operations, whole numbers.	Levels 4-8: Equations
	Solve real-world multiple-step problems involving whole numbers.	Levels 4-8: Equations
	Predict the relative size of the answer computing with 10's, 100's, 1000's.	Levels 4-6: Multiplication
	Predict the relative size of the answer when multiplying whole numbers.	Levels 4-6: Multiplication





	Use rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 1000 (whole numbers only).	Levels 4-6: Multiplication
	Use rounding to estimate answers to difficult multiplication and division problems.	Levels 4-6: Multiplication
	Use rounding to estimate answers to 2-step problems involving money (using decimals).	Levels 5-6: Measurement

Wisconsin Standard C Geometry		Lesson in Academy of MATH®
	Identify rays.	Levels 4-6: Geometry
	Identify perpendicular lines.	Levels 4-8: Geometry
	Identify and name a quadrilateral.	Levels 4-6: Geometry
	Classify polygons by type of angle.	Levels 3-5: Geometry
	Classify polygons by number of sides.	Level 3: Geometry
	Identify corners (vertices) of cubes.	Levels 1, 6-7: Geometry
	Identify and name a rectangular prism.	Levels 2-6: Geometry
	Classify triangular prisms by their properties (e.g., base shape, lateral surface shape, vertices).	Levels 5-6: Geometry
	Predict and verify the effects of combining or subdividing basic shapes.	Level 3: Geometry
	Recognize similar figures in the real world.	Levels 3-4, 8: Geometry
	Identify geometric transformations: rotations, translations, and	Levels 4-5, 7-8: Geometry





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Wisconsin Standard D Measurement		Lesson in Academy of MATH®
	Select & use the appropriate type and size of unit in metric system – length.	Levels 3-4: Measurement
	Select & use the appropriate type and size of unit in metric system – height.	Levels 3-4: Measurement
	Convert between inches, feet, and yards.	Levels 4-6: Measurement
	Convert between feet, yards, and miles.	Levels 4-6: Measurement
	Compute basic addition with units of length.	Levels 2-5: Measurement
	Select & use the appropriate type and size of unit in metric system (mass).	Levels 3-4: Measurement
	Convert between cups, pints, quarts, and gallons.	Level 4: Measurement
	Compute basic operations with units of time.	Levels 3-6: Measurement
	Measure length to the nearest half inch.	Levels 2-3: Measurement
	Measure length to the nearest quarter of an inch.	Level 3: Measurement
	Determine the perimeter of a figure using non-standard units.	Levels 3-5: Measurement
	Determine the area of irregular shapes with partial square units.	Levels 4-5: Measurement
	Know the approximate size of a millimeter.	Level 4: Measurement





	Know the approximate size of a kilometer.	Level 4: Measurement
	Apply dimensional analysis to simple real-world problems (length).	Levels 3-5: Measurement
	Solve simple problems involving weight.	Levels 3-5: Measurement
	Apply dimensional analysis to simple real-world problems (weight/mass).	Levels 3-5: Measurement
	Know the approximate size of an ounce.	Level 4: Measurement
	Know the approximate size of a gallon.	Level 4: Measurement
	Apply dimensional analysis to simple real-world problems (time).	Levels 3-4: Measurement
	Solve difficult problems involving elapsed time, with the conversion of hours.	Levels 5-6: Measurement
	Solve problems involving the perimeter of squares, rectangles, or triangles.	Levels 3-6: Measurement

Wisconsin Standard E Statistics & Probability		Lesson in Academy of MATH®
	Solve problems using pictographs.	Levels 1-2, 4, 6-7: Graphs
	Solve problems using bar graphs.	Levels 1-4, 6-8: Graphs
	Read and interpret data in line plots.	Levels 5-8: Graphs
	Determine the average (mean) of a simple set of data.	Levels 5-8: Division





		Level 8: Graphs
	Solve simple problems involving mean.	Levels 5-8: Division Level 8: Graphs
	Draw conclusions from data – charts.	Levels 3-4, 6-8: Graphs
	Predict from pictographs and bar graphs.	Levels 6-8: Graphs

Wisconsin Standard F Algebraic Relationships		Lesson in Academy of MATH®
	Translate a 2-step problem to a symbolic expression or equation.	Levels 4-8: Equations
	Determine the operation needed from a complex problem.	Levels 4-8: Equations
	Use algebraic reasoning to solve problems involving equality relationships.	Levels 1-8: Equations
	Solve simple open sentences with missing factors (numbers over 100).	Levels 4-5: Equations
	Apply algebraic methods to solve theoretical problems.	Levels 1-8: Equations
	Evaluate a numerical expression involving more than one operation.	Levels 4-8: Equations
	Demonstrate an understanding of the inverse relationship between addition and subtraction.	Levels 1-5: Equations
	Demonstrate an understanding of the commutative property of multiplication with simple problems.	Level 4: Number Sense Level 5: Equations
	Demonstrate an understanding of the associative property of multiplication.	Levels 4-5: Number Sense Level 5: Multiplication
	Demonstrate an understanding of the distributive property of multiplication by decomposing a term.	Level 5: Number Sense, Multiplication





	Recognize multiplication and division fact families.	Levels 2-5: Multiplication Levels 2-4: Division
	Solve open sentences using the distributive property.	Level 5: Number Sense, Multiplication
	Solve open sentences with calculations on both sides of the sentence.	Levels 4-5: Number Sense
	Solve 2-step open sentences with missing factors.	Levels 4-8: Equations

