

**I AM Performance Level Descriptors (PLDs)
Grade 4 Mathematics**

	Content Connector	Below Proficiency	Approaching Proficiency	At Proficiency
Algebraic Thinking and Data Analysis				
MA.4.AT.1.a.1	Solve one- or two-step word problems requiring addition and/or subtraction with sums up to 500.	Solves one-step word problems requiring addition with sums up to 500.	Solves one-step word problems requiring addition and subtraction with sums up to 500.	Solves one- and two-step word problems requiring addition and/or subtraction with sums up to 500.
MA.4.AT.2.a.1	Recognize and apply the relationship between addition and multiplication.	Identifies the relationship between addition and multiplication given visual supports. (Identify a multiplication equation. Identify an addition equation.)	Recognizes the relationship between addition and multiplication, with visual supports, models, and or representations.	Recognizes and applies the relationship between addition and multiplication.
MA.4.AT.3.a.1	Represent verbal statements of multiplicative comparisons as multiplication equations.	Identifies multiplicative comparisons with visual supports.	Represents verbal statements of multiplicative comparisons with visual supports.	Represents verbal statements of multiplicative comparisons as multiplication equations.
MA.4.AT.4.a.1	Solve a real-world problem involving multiplicative comparison with product unknown.	Given a multiplicative comparison statement, identifies the missing product in the equation. (e.g., $__ = 4 \times 8$, 32 is 4 times as many as 8. The answer would be 32.)	Given a multiplicative comparison statement, identifies the equation (e.g., 32 is 4 times as many as 8, the answer would be $32 = 4 \times 8$.)	Solves a real-world problem involving multiplicative comparison with product unknown.
MA.4.AT.5.a.1	Solve a real-world problem using a model to represent the concept of adding and subtracting fractions (e.g., $\frac{3}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$).	Given a model to represent a fraction number sentence, solves the addition fraction equation.	Solves a real-world problem using a model to represent the concept of adding fractions (e.g., $\frac{3}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$) with common denominators.	Solves a real-world problem using a model to represent the concept of adding and subtracting fractions (e.g., $\frac{3}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$) with common denominators.

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MA.4.AT.6.a.1	Understand that a variable in an equation is representing a number.	Given an equation, identifies the variable.	Given an equation with a variable and the variables value, solves the equation.	Understands that a variable in an equation is representing a number.
MA.4.DA.1.a.1	Interpret data from a table or bar graph.	Locates data on a table or graph.	Reviews data from a table or bar graph.	Interprets data from a table or bar graph.
MA.4.DA.2.a.1	Graph provided data on a line plot.	Locates data on a line plot.	Reads and identifies information on a line plot.	Creates a line plot using provided data.
MA.4.DA.3.a.1	Interpret data displayed in a circle graph up to halves and fourths.	Locates data up to halves and fourths on a circle graph.	Reads and identifies data up to halves and fourths on a circle graph.	Interprets data using halves and fourths displayed on a circle graph.
Computation				
MA.4.C.1.a.1	Add and subtract multi-digit whole numbers with sums up to 500.	Adds and subtracts multi-digit whole numbers with sums up to 500 without regrouping given visual supports.	Adds and subtracts multi-digit whole numbers with sums up to 500 without regrouping.	Adds and subtracts multi-digit whole numbers with sums up to 500.
MA.4.C.2.a.1	Multiply 2-digit numbers by one-digit numbers.	Multiplies one-digit numbers by one-digit numbers.	Multiplies 2-digit numbers by one-digit numbers with visual supports.	Multiplies 2-digit numbers by one-digit numbers.
MA.4.C.3.a.1	Represent division by sorting up to 50 objects into groups without remainders.	Represents division by sorting up to 50 objects into a set number of groups without remainders with visuals.	Represents division by sorting up to 50 objects into a set number of groups without remainders.	Represents division by sorting up to 50 objects into groups without remainders.
MA.4.C.4.a.1	Multiply single-digit numbers fluently.	Selects the correct model to solve a single-digit multiplication problem fluently.	Creates a model (array, repeated addition, etc.) to represent how to solve a single-digit multiplication problem fluently.	Solves a single-digit multiplication problem fluently.

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MA.4.C.5.a.1	Using a model, represent the concept of adding and subtracting fractions (e.g., $\frac{3}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$).	Selects the correct model to show how to add or subtract a fraction with like denominators.	Uses a model to identify the concept of adding and subtracting fractions with like denominators	Using a model, represents the concept of adding and subtracting fractions (e.g., $\frac{3}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$).
MA.4.C.6.a.1	Using a model, represent the concept of adding and subtracting mixed numbers with common denominators.	Selects the correct model to show how to add a fraction using mixed numbers with common denominators; selects the correct model to show how to subtract a fraction using mixed numbers with common denominators.	Uses a model to identify the concept of adding and subtracting mixed numbers with common denominators.	Uses a model to demonstrate the concept of adding and subtracting mixed numbers with common denominators.
MA.4.C.7.a.1	Using models, demonstrate understanding of the commutative property using numbers less than 5.	Matches the correct model to show commutative property for factors and addends to 5 (includes addition and multiplication).	Identifies the commutative property using factors or addends to 5 (includes addition and multiplication).	Uses a model to demonstrate commutative property using factors or addends to 5 (includes addition and multiplication).
Geometry and Measurement				
MA.4.G.1.a.1	Using models and representations, identify the following shapes: parallelograms, rhombuses, and trapezoids.	Distinguishes/sorts parallelograms, rhombuses, and trapezoids.	Identifies parallelograms, rhombuses, and trapezoids through standard models.	Identifies parallelograms, rhombuses, and trapezoids through given various models and representations.
MA.4.G.2.a.1	Recognize a line of symmetry in a figure.	With support, identifies a line of symmetry in given basic shapes.	Identifies a line of symmetry in given basic shapes.	Identifies a line of symmetry in given figures.
MA.4.G.3.a.1	Recognize an angle in two-dimensional shapes.	Distinguishes between shapes with angles and shapes without angles.	Distinguishes shapes with angles and shapes without angles.	Recognizes an angle in two-dimensional shapes.
MA.4.G.4.a.1	Identify parallel and perpendicular lines.	Identifies parallel or perpendicular lines.	Identifies parallel or perpendicular lines in basic models.	Identifies both parallel and perpendicular lines in given models.

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MA.4.G.5.a.1	Classify shapes based on attributes (angles, parallel and perpendicular lines).	Identifies shapes from non-shapes.	Sorts shapes with similar attributes.	Classifies shapes based on attributes (angles, parallel and perpendicular lines).
MA.4.M.1.a.1	Measure length to nearest quarter-inch.	Given a group of objects, selects an object that measures less than a half-inch.	Measures an object to nearest quarter-inch.	Estimates length to nearest quarter-inch.
MA.4.M.2.a.1	Identify the appropriate units of measurement for different purposes in a real-life context (e.g., measure a wall using feet, not inches).	Distinguishes between units of measure through use of pictures.	Distinguishes between units of measure, length, weight, time (e.g., use of feet or hours to measure a wall).	Identifies appropriate units of measurement in real-life context (e.g., measure a wall using feet, not inches).
MA.4.M.3.a.1	Solve real-world problems involving intervals of time to the half-hour.	Identifies intervals of time in context of a real-world problem using visual models.	Identifies intervals of time in context of a real-world problem (e.g., identifies time toward the direction of the answer).	Solves real-world problems involving intervals of time to the half-hour.
MA.4.M.3.a.2	Solve real-world problems involving money up to the value of five dollars.	With support, solves real-world problems involving money up to the value of five dollars, using models.	Solves real-world problems involving money up to the value of five dollars using models.	Solves real-world problems involving money up to the value of five dollars.

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MA.4.M.4.a.1	Solve real-world problems using area.	Given models, solves real-world problems using area and formula set up within the problem.	Given models, solves real-world problems using area and the formula for area.	Solves real-world problems using area.
MA.4.M.5.a.1	Find an angle in a circle.	Identifies that a circle has an angle in it, with support.	Identifies that a circle has an angle in it.	Finds a correct angle in a circle.
MA.4.M.6.a.1	Select an appropriate tool for measuring angles.	Selects an appropriate tool for measuring angles, with support.	Selects an appropriate tool for measuring angles.	Selects an appropriate tool for measuring angles.
Number Sense				
MA.4.NS.1.a.1	Read, demonstrate, and write whole numbers up to 500.	Reads whole numbers in standard form up to 500.	Reads and writes whole numbers up to 500.	Reads, demonstrates, and writes whole numbers up to 500.
MA.4.NS.2.a.1	Compare two whole numbers up to 500 using >, =, and < symbols and words.	Indicates the least/greatest number when given two numbers up to 500.	Compares two whole numbers up to 500 using >, =, and < symbols or words.	Compares two whole numbers up to 500 using >, =, and < symbols and words.
MA.4.NS.3.a.1	Express a whole number as a fraction.	Identifies whole numbers represented as fractions.	Expresses a whole number as a fraction with a denominator of 1 (e.g., $4/1 = 4$).	Expresses a whole number as a fraction (e.g., $4/4 = 1$ or $4/1 = 4$).
MA.4.NS.4.a.1	Using a model, show equivalent fractions for fractions up to tenths.	Chooses the model that represents a given fraction.	Using a model, shows equivalent fractions for fractions up to tenths (using two visual models of the same shape and different denominator).	Using a model, shows equivalent fractions for fractions up to tenths (using two visual models of same shapes and varying denominators).

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MA.4.NS.5.a.1	Use symbols =, <, or > and words to compare two fractions (fractions with the different denominator of 10 or less).	Given two fractions (fractions with the same denominator of 10 or less), indicates the least/greatest fraction.	Uses symbols =, <, or > or words to compare two fractions (fractions with different denominators of 10 or less).	Uses symbols =, <, or > and words to compare two fractions (fractions with the different denominator of 10 or less).
MA.4.NS.6.a.1	Write tenths in decimal and fraction notations.	Given a model of tenths, identifies the represented fraction.	Writes tenths in decimal or fraction notations.	Writes tenths in decimal and fraction notations.
MA.4.NS.6.a.2	Know the fraction and decimal equivalent for halves and fourths up to 1.	Knows the fraction or decimal equivalent for halves up to 1.	Knows the fraction or decimal equivalent for fourths up to 1.	Knows the fraction and decimal equivalent for halves and fourths up to 1.
MA.4.NS.7.a.1	Compare two decimals to the tenths place with a value of less than 1.	Given two decimals to the tenths place with a value of less than one, indicates the least/greatest decimal.	Uses symbols =, <, or > or words to compare two decimals to the tenths place with a value of less than 1.	Uses symbols =, <, or > and words to compare two decimals to the tenths place with a value of less than 1.
MA.4.NS.8.a.1	Identify a factor pair for a product up to 50.	Given a visual representation and a number sentence with a product up to 50 with a missing factor, identifies the missing factor (e.g., $5 \times \underline{\quad} = 50$).	Identifies a factor for a product up to 50.	Identifies a factor pair for a product up to 50.
MA.4.NS.9.a.1	Use place value to round 3-digit numbers to tens or hundreds.	Given a 3-digit number, identifies the place value of a given digit.	Uses place value to round 3-digit numbers to hundreds.	Uses place value to round 3-digit numbers to tens or hundreds.
Process Standards				
PS.1	Make sense of problems and persevere in solving them.	Identifies given quantities and unknowns for a given problem.	Identifies what question is asking, relevant or irrelevant information, and can set up solution method.	Makes sense of and solves problems.

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PS.2	Reason abstractly and quantitatively.	Represents a problem using numbers and symbols.	Identifies a symbolic expression or equation that represents a problem situation.	Creates symbolic expressions or equations to represent problem situations.
PS.3	Construct viable arguments and critique the reasoning of others.	Identifies clearly invalid arguments, without justification or explanation.	Identifies the flaws in a given argument.	Constructs arguments and justifications for mathematical thinking, and critiques the reasoning of others.
PS.4	Model with mathematics.	Identifies parts of a real-world problem.	Creates a model to represent a real-world problem.	Applies math knowledge to solve real-world problems using a variety of models and representations and reflects to make sure the answer makes sense.
PS.5	Use appropriate tools strategically.	Recognizes familiar mathematic tools.	Uses familiar tools to aid mathematical process.	Uses relevant mathematical tools and external mathematical resources to communicate mathematical ideas.
PS.6	Attend to precision.	Identifies common mathematical definitions.	Uses common mathematical vocabulary to connect or explain simple mathematical concepts.	Communicates correct mathematical language with appropriate precision and context.
PS.7	Look for and make use of structure.	Identifies simple structures.	Identifies the rules for simple numeric and geometric structures, and uses those rules to extend a pattern.	Applies structural classifications and patterns to answer problems in a variety of ways.
PS.8	Look for and express regularity in repeated reasoning.	Identifies simple examples of repeated reasoning or patterns.	Identifies the rules exhibited in repeated reasoning or patterns.	Applies repeated reasoning to develop general methods, rules, and short-cuts for solving mathematical problems.