

Fourth Grade Math
Performance Level Descriptors

Strand	Objective	Performance Level Descriptors (PLDs)			
		Basic	Proficient	Advanced	
Number and Operations	1a	Add and subtract up to five-digit whole numbers with and without regrouping.		Add and subtract up to five-digit whole numbers with & without regrouping.	
	1b	Add and subtract decimals through hundredths.		Add and subtract decimals through hundredths.	
	1c	Explain two or more methods of multiplying whole numbers (one- and two-digits) with justification.		Explain two or more methods of multiplying whole numbers, and justify the process.	
	1d	Explain two or more methods of dividing four-digit dividends by one- and two-digit divisors, with and without remainders, and justify the processes.		Divide four-digit dividends by one- and two-digit divisors.; Explain two or more methods of dividing whole numbers and justify the process.	
	1e	Add and subtract fractions with like denominators.		Add and subtract fractions with like denominators.	
	1f	Model and identify equivalent fractions.		Model equivalent fractions.	
	1g	Represent equivalence relationships between fractions and decimals using concrete materials, diagrams, or other models.		Represent equivalence relationships between fractions and decimals.	
	1h	Estimate products and quotients of whole numbers to include strategies such as rounding.		Estimate products and quotients of whole numbers.	Justify estimations of products and quotients of whole numbers.
	1i	Recall multiplication and division facts.	Recall multiplication & division facts.		
	1j	Compose and decompose five-digit numbers and decimal numbers through hundredths, with representations in words, physical models, and expanded and standard forms.		Compose and decompose five-digit numbers and decimals numbers.	
	1k	Determine and use benchmark numbers such as 0, 0.5 (1/2), and 1 to judge the magnitude of whole numbers, decimals, and fractions.		Use benchmark numbers.	
	1l	Model factors and multiples of whole numbers.		Model factors and multiples of whole numbers.	

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Algebra	2a	Analyze a given numeric pattern and generate a similar pattern.		Analyze a given numeric pattern and generate a similar pattern.	
	2b	Determine the value of variables in equations; justify the process used to make the determination.		Determine the value of variables in equations a justify the process used.	
	2c	Construct input/output function tables and generalize the rule using words, models, and symbols.		Construct input/output function tables and generalize the rule.	Justify an input/output table based on a rule.
	2d	Explain the properties of the basic operations using models, numbers, and variables: zero property of multiplication, associative properties of addition & multiplication, commutative properties of addition & multiplication, identity properties of addition & multiplication, distributive properties of multiplication over addition & subtraction.		Explain the properties of basic operations.	
	2e	Demonstrate and explain the inverse operations of addition/subtraction and multiplication/division.	Demonstrate and explain the inverse operations of addition/subtraction and multiplication/division.	Explain the inverse operations of addition/subtraction and multiplication/division.	
Geometry	3a	Analyze and describe the similarities and differences between and among two- and three-dimensional geometric shapes, figures, and models using mathematical language.		Analyze and describe the similarities and differences between and among two- and three-dimensional geometric shapes, figures, and models.	
	3b	Identify and analyze the relationships between and among points, lines, line segments, angles, and rays.	Identify the relationship between and among points, lines, leg segments, angles, and rays.	Analyze the relationships between and among points, lines, line segments, angles, and rays.	
	3c	Identify transformations (rotations [turns], reflections [flips], and translations [slides]) of two-dimensional figures.		Identify transformations and model translations.	
	3d	Locate ordered pairs in the first quadrant of the coordinate plane.		Locate ordered pairs in the first quadrant of the coordinate plane.	

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Measurement	4a	Estimate and measure a given object to the nearest eighth of an inch.	Measure a given object to the nearest eighth inch.	Estimate a given object to the nearest eighth inch.	
	4b	Convert capacity, weight/mass, and length <u>within</u> the English and metric systems of measurement.		Convert capacity, weight/mass, and length <u>within</u> the English and metric systems of measurement.	
	4c	Describe relationships of rectangular area to numerical multiplication.		Describe relationships of rectangular area to numerical multiplication.	Compare the relationships of rectangular area to numerical multiplication.
	4d	Use appropriate tools to determine, estimate, and compare units for measurement of weight/mass, area, size of angle, temperature, length, distance, and volume in English and metric systems and time in real-life situations.	Use appropriate tools to determine units for measurement.	Use appropriate tools to estimate and compare units for measurement.	
Data Analysis & Probability	5a	Draw, label, and interpret bar graphs, line graphs, and stem-and-leaf plots.	Draw and label bar graphs, line graphs, and stem-and-leaf plots.	Interpret bar graphs, line graphs, and stem-and-leaf plots.	
	5b	Find and interpret the mean, mode, median, and range of a set of data.	Find the mean, mode, median, and range of a set of data.	Interpret the mean, median, and range of a set of data.	
	5c	Compare data and interpret quantities represented on tables and graphs including line graphs, bar graphs, frequency tables, and stem-and-leaf plots to make predictions and solve problems based on the information.		Compare data and interpret quantities represented on tables and graphs.	Justify predictions and solutions based on information represented on frequency tables and stem-and-leaf plots.