

Performance Level Descriptors

Mathematics

Grade 4

2024



WISCONSIN DEPARTMENT OF
Public Instruction

This publication is available from:
Division of Student and School Success
Office of Educational Accountability
(608) 267-1072

<https://dpi.wi.gov/assessment/correspondence>

July 2024 Wisconsin Department of Public Instruction

The Wisconsin Department of Public Instruction does not discriminate on the basis of sex, race, color, religion, creed, age, national origin, ancestry, pregnancy, marital status or parental status, sexual orientation, or ability and provides equal access to the Boy Scouts of America and other designated youth groups.

Performance Level Descriptors

The Forward Exam is a summative assessment which provides information about what students know and can do in relation to the Wisconsin Academic Standards at each grade-level. Students receive a score based on their performance in each content area. The Student Performance Level is a categorical score.

Range performance levels are based on predetermined score ranges. The score ranges for each content area are set using a process in which Wisconsin educators carefully consider the academic standards, performance level descriptors, and test questions. There are four performance levels: *Developing*, *Approaching*, *Meeting*, and *Advanced*. The goal for all students is to score at the meeting or advanced level.

More-detailed descriptions of the specific concepts and skills are provided for each indicator in the **Performance Level Descriptors** (PLDs). Range PLDs are descriptions of the knowledge and skills expected at each of the four performance levels. The Range PLDs are based on the approved 2021 state-adopted content standards.

PLDs show a *progression of knowledge and skills* expected across the performance levels. It is important to understand that a student should demonstrate an understanding of the knowledge and skills within a performance level *as well as all content and skills in any performance levels that precede it, if any*. For example, a student who is meeting expectations should also possess the knowledge and skills described at the developing and approaching performance levels.

Policy Performance Level Descriptors			
Developing	Approaching	Meeting	Advanced
Student is at the beginning stages of developing the knowledge and skills described in the Wisconsin Academic Standards for their grade level needed to be on-track for future learning.	Student is approaching the knowledge and skill expectations described in the Wisconsin Academic Standards for their grade level needed to be on-track for future learning.	Student is meeting the knowledge and skill expectations described in the Wisconsin Academic Standards for their grade level and is on-track for future learning.	Student demonstrates a thorough understanding of the knowledge and skills described in the Wisconsin Academic Standards for their grade level and is on-track for future learning.

Range Performance Level Descriptors

Operations and Algebraic Thinking			
Developing	Approaching	Meeting	Advanced
A student at this level can likely recognize a multiplicative comparison,	A student at this level can likely identify an equation that represents a multiplicative comparison,	A student at this level can likely interpret an equation as a multiplicative comparison with a written statement,	A student at this level can likely interpret an equation as a multiplicative comparison with two different written statements,
		represent a written statement of multiplicative comparison as an equation,	represent a written statement of multiplicative comparison as two different equations,
	use multiplication to solve word problems that involve multiplicative comparison,	use multiplication or division to solve word problems that involve multiplicative comparison,	solve word problems and explain how multiplicative comparison is different from additive comparison,
solve multi-step word problems with whole numbers and whole-number answers using addition and multiplication,	solve multi-step word problems with whole numbers and whole-number answers using the four operations,	solve multi-step word problems with whole numbers and whole-number answers using the four operations including problems in which remainders must be interpreted,	solve multi-step word problems with whole numbers and whole-number answers using the four operations and justify the answers with mental computation and estimation strategies,
recognize that a whole number is a multiple of each of its factors,	find factor pairs for whole numbers in the range of 1-100 that are multiples of 2 or 5 and determine whether a given whole number in the range of 1-100 is a multiple of a given one-digit number,	find all factor pairs for whole numbers in the range of 1-100 and determine whether a given whole number in the range of 1-100 is prime or composite,	explain why a whole number is a multiple of each of its factors,

determine a missing term in a shape pattern, and	determine a missing term in a number or shape pattern, and	generate a number or shape pattern when given the rule and identify features of the pattern that are not explicit in the rule, and	generate a rule that describes a given number or shape pattern, and
find products and quotients with foundational factors (0, 1, 2, 5, and 10).	demonstrate and explain flexibility and efficiency when finding products within 100.	demonstrate and explain flexibility and efficiency when finding products and quotients within 100.	demonstrate and explain flexibility and efficiency when finding products and quotients within 100, including generalizations that support reasoning.

Number and Operations in Base Ten

Developing	Approaching	Meeting	Advanced
A student at this level can likely	A student at this level can likely	A student at this level can likely	A student at this level can likely
	recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents to its right when provided a visual model,	recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right,	recognize the value of a digit in one place compared to its value more than one place to its right,
read and write multi-digit whole numbers using base-ten numerals,	read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form,	compare two multi-digit whole numbers based on meanings of digits,	explain the comparison of two multi-digit whole numbers based on the meanings of the digits,
	use place value to generate estimates for real-world situations within 500,	use place value to generate and assess the reasonableness of estimates for real-world situations with multi-digit whole numbers,	explain how place value can be used to assess the reasonableness of estimates for real-world situations with multi-digit whole numbers,

find sums and differences with multi-digit whole numbers,	demonstrate flexibility when finding sums and differences with multi-digit whole numbers,	demonstrate flexibility and efficiency when finding sums and differences with multi-digit whole numbers,	demonstrate and explain flexibility and efficiency when finding sums and differences with multi-digit whole numbers,
multiply a whole number of up to three digits by a one-digit whole number, and	multiply a whole number of four digits by a one-digit whole number, and	multiply two two-digit whole numbers, and	multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit whole numbers, explaining and illustrating the solution, and
find whole-number quotients without remainders with two-digit dividends and one-digit divisors.	find whole-number quotients and remainders with up to three-digit dividends and one-digit divisors.	find whole-number quotients and remainders with four-digit dividends and one-digit divisors.	find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, explaining and illustrating the solution.
Number and Operations – Fractions			
Developing	Approaching	Meeting	Advanced
A student at this level can likely recognize fraction equivalence using a visual fraction model,	A student at this level can likely recognize and generate fraction equivalence using a visual fraction model,	A student at this level can likely recognize and generate fraction equivalence,	A student at this level can likely explain fraction equivalence using a visual fraction model,
compare fractions with different numerators,	compare fractions with different denominators,	compare fractions with different numerators and different denominators,	recognize and explain that comparisons are only valid when fractions refer to the same whole,
	justify a comparison of fractions with different numerators,	justify a comparison of fractions with different numerators and different denominators using visual fraction models,	justify fraction comparisons by reasoning about the size of the fractions,

decompose a fraction into a sum of unit fractions,	decompose a fraction into a sum of unit fractions and multiples of a unit fraction,	decompose a fraction into a sum of unit fractions or multiples of a unit fraction in more than one way,	justify the decomposition of a fraction into unit fractions or multiples of unit fractions,
add and subtract fractions less than one with like denominators using visual fraction models and solve word problems involving those fractions,	add and subtract fractions less than one with like denominators and solve word problems involving those fractions,	add and subtract fractions including mixed numbers with like denominators and solve word problem involving those fractions,	add and subtract fractions including mixed numbers with closely related denominators and solve word problems involving those fractions,
multiply a whole number times a unit fraction,	multiply a whole number times a fraction,	multiply a whole number times a fraction and solve word problems involving that multiplication,	determine and explain a reasonable answer range when multiplying with fractions,
	identify equivalent fractions with denominators of 10 and 100,	add two fractions with denominators of 10 and 100 by expressing the fraction with a denominator of 10 as an equivalent fraction with a denominator of 100,	explain how to add two fractions with denominators of 10 and 100, and
use decimal notation for fractions with denominators of 10, and	use decimal notation for fractions with denominators of 10 and represent them with visual models, and	use decimal notation for fractions with denominators of 10 or 100 and represent them with visual models, and	
compare decimals to the tenths.	compare decimals to the hundredths by reasoning about their size.	compare decimals to the hundredths by reasoning about their size or using benchmarks and justify the comparison with a visual model.	recognize and explain that comparisons are only valid when decimals refer to the same whole.
Measurement and Data			
Developing	Approaching	Meeting	Advanced

<p>A student at this level can likely</p>	<p>A student at this level can likely identify the relative sizes of measurement units within one system,</p>	<p>A student at this level can likely express measurements in a larger unit in terms of a smaller unit within the same system,</p>	<p>A student at this level can likely</p>
		<p>identify and record measurement equivalents within the same system in a two-column table,</p>	
<p>use addition and subtraction to solve word problems involving distance, time intervals, liquid volumes, masses, and money with whole numbers,</p>	<p>use the four operations to solve word problems involving distance, time intervals, liquid volumes, masses, and money with whole numbers,</p>	<p>use the four operations to solve word problems involving distance, time intervals, liquid volumes, masses, and money with simple fractions or decimals or that require expressing measurements given in a larger unit in terms of a smaller unit,</p>	<p>use the four operations to solve multi-step word problems involving distance, time intervals, liquid volumes, masses, and money with simple fractions or decimals or that require expressing measurements given in a larger unit in terms of a smaller unit, and</p>
	<p>represent measurement quantities with diagrams,</p>	<p>represent measurement quantities with diagrams that have a measurement scale,</p>	
<p>recognize the use of the area or perimeter formulas for rectangles, and</p>	<p>apply the area and perimeter formulas to solve mathematical problems,</p>	<p>apply the area and perimeter formulas for rectangles to solve real-world problems,</p>	
	<p>identify a line plot that displays a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$),</p>	<p>create a line plot that displays a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$),</p>	
	<p>solve problems involving the addition of fractions with common denominators based on information presented in a line plot, and</p>	<p>solve problems involving the addition or subtraction of fractions with common denominators based on information presented in a line plot,</p>	<p>solve problems involving the addition or subtraction of fractions with closely related denominators based on information presented in a line plot,</p>

recognize that angles are formed by two rays sharing a common endpoint.	visually recognize benchmark angles, and	understand that an angle measure is the number of degrees it turns through a circle,	
		measure or sketch angles in whole-number degrees using a protractor, and	
	recognize that angle measure is additive.	solve mathematical addition and subtraction problems to determine unknown angle measures on a diagram.	solve real-world addition and subtraction problems to determine unknown angle measures on a diagram.
Geometry			
Developing	Approaching	Meeting	Advanced
A student at this level can likely recognize points, lines, line segments, rays, perpendicular lines, and parallel lines,	A student at this level can likely draw points, lines, line segments, rays, perpendicular lines, and parallel lines,	A student at this level can likely identify points, lines, line segments, rays, perpendicular lines, and parallel lines within two-dimensional figures,	A student at this level can likely
recognize right, acute, and obtuse angles, and	draw right, acute, and obtuse angles, and	identify right, acute, and obtuse angles within two-dimensional figures and identify right triangles,	
		classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines,	explain the classification of two-dimensional figures based on the presence or absence of parallel or perpendicular lines,

		classify two-dimensional figures based on the presence or absence of angles of a specified size, and	explain the classification of two-dimensional figures based on the presence or absence of angles of a specified size, and
recognize a symmetrical figure.	identify a line of symmetry in a two-dimensional figure.	draw a line of symmetry in a two-dimensional figure.	identify or draw multiple lines of symmetry in a two-dimensional figure.