

# Performance Level Descriptors

## Mathematics

## Grade 5

2024



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# 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   |  |  |  |
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| 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   |   |  |  |
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| Developing  | Approaching   | Meeting  | Advanced   |
| A student at this level can likely evaluate numeric expressions with parentheses, and | A student at this level can likely evaluate numerical expressions with parentheses, brackets, or braces, and  | A student at this level can likely write, interpret, and evaluate numerical expressions with parentheses, brackets, and braces,  | A student at this level can likely add, remove, or rearrange grouping symbols in a numerical expression so that it has the same value as another numerical expression, |
|   |   | interpret a numerical expression without evaluating it, and  | compare two different numerical expressions without evaluating them, and   |
| determine a missing term in a numerical pattern.                                      | generate two numerical patterns using two given rules.  | form ordered pairs from two numerical patterns that use two given rules and plot them on a coordinate plane.   | identify and explain the relationship between the corresponding terms of two numerical patterns.   |
| Number and Operations in Base Ten   |   |  |  |
| Developing  | Approaching   | Meeting  | Advanced   |
| A student at this level can likely use whole-number exponents to denote powers of 10, | A student at this level can likely recognize that the value of a digit in one place represents 10 times as much as it represents in the place to its right and one-tenth of what it represents in the place to the left when provided a visual model, | A student at this level can likely recognize that the value of a digit in one place represents 10 times as much as it represents in the place to its right and one-tenth of what it represents in the place to the left, | A student at this level can likely recognize the value of a digit in one place compared to its value more than one place to the right or to the left,                  |
|   | multiply and divide by powers of 10,  | explain patterns, including the placement of the decimal point,  |  |

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|  |   | when multiplying and dividing by powers of 10,  |  |
| read, write, and compare decimals to the hundredths place using base-ten numerals,             | read, write, and compare decimals to the thousandths place using base-ten numerals,   | read, write, and compare decimals to the thousandths place using base-ten numerals, number names and expanded form,   | explain the relationship between decimals to the thousandths place expressed using base-ten numerals and expressed using expanded form,              |
| use place value to generate estimates for mathematical problems with decimals,                 | use place value to generate estimates for real-world problems with decimals,  | assess the reasonableness of estimates used for real-world problems with decimals,  | explain how place value can be used to assess the reasonableness of estimates for real-world situations with decimals,                               |
| find products using multi-digit whole numbers, and   | demonstrate flexibility when finding products using multi-digit whole numbers,  | demonstrate and explain flexibility when finding products using multi-digit whole numbers,  | demonstrate and explain flexibility and efficiency when finding products using multi-digit whole numbers,  |
|  | find whole-number quotients with up to three-digit dividends and two-digit divisors, and  | find whole-number quotients with up to four-digit dividends and two-digit divisors, and   | find whole-number quotients with up to four-digit dividends and two-digit divisors and explaining and illustrating the calculation, and              |
| add and subtract decimals to the hundredths.   | add and subtract decimals to the hundredths, explaining the reasoning used.   | add, subtract, multiply, and divide decimals to the hundredths.   | add, subtract, multiply, and divide decimals to the hundredths, explaining the reasoning used.   |
| <b>Number and Operations – Fractions</b>   |   |   |  |
| <b>Developing</b>  | <b>Approaching</b>  | <b>Meeting</b>  | <b>Advanced</b>  |
| <b>A student at this level can likely</b> add and subtract fractions with unlike denominators, | <b>A student at this level can likely</b> demonstrate flexibility when adding and subtracting fractions with unlike denominators, | <b>A student at this level can likely</b> demonstrate flexibility and efficiency when adding and subtracting fractions with unlike denominators, including mixed numbers, and solve word problems | <b>A student at this level can likely</b> justify addition and subtraction of fractions with unlike denominators using a visual model and equations, |

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|  |   | that involve this addition and subtraction,  |   |
|  | use benchmark fractions and number sense to assess the reasonableness of a sum,   | use benchmark fractions and number sense to assess the reasonableness of a sum or difference,  |   |
| recognize a fraction as an equal sharing division problem, | interpret a fraction as an equal sharing division problem,  | solve word problems that involve division of whole numbers leading to answers in the form of fractions or mixed numbers by using visual fraction models, | determine what two whole numbers a quotient lies between when dividing whole numbers leading to answers in the form of fractions or mixed numbers,  |
| multiply a fraction times a whole number, and              | multiply a fraction times a fraction,   | solve word problems that involve multiplying fractions by using visual models,   | demonstrate and explain flexible and efficient strategies for multiplying fractions,  |
|  | find the area of a rectangle with fractional side lengths,  | explain why finding the area of a rectangle with fractional side lengths by tiling will result in the same area as multiplying the side lengths,         |   |
|  | recognize that multiplying a number by a fraction greater than 1 results in a product greater than the number and that multiplying a number by a fraction less than 1 results in a product smaller than the number, and | estimate whether a product will be larger or smaller than a given factor without performing the indicated multiplication,                                | explain why multiplying a number by a fraction greater than 1 results in a product greater than the number and why multiplying a number by a fraction less than 1 results in a product smaller than the number, |
|  |   | solve word problems that involve multiplying fractions and mixed numbers by using visual fraction models,  |   |

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|   |   | use benchmark fractions and number sense to assess the reasonableness of a product, and   | explain how benchmark fractions and number sense can be used to assess the reasonableness of a product, and  |
| divide unit fractions by whole numbers.   | divide whole numbers by unit fractions.   | solve real-world problems that involve the division of unit fractions by whole numbers and the division of whole numbers by unit fractions. | create and solve real-world problems that involve the division of unit fractions by whole numbers and the division of whole numbers by unit fractions. |
| <b>Measurement and Data</b>   |   |   |  |
| <b>Developing</b>   | <b>Approaching</b>  | <b>Meeting</b>  | <b>Advanced</b>  |
| <b>A student at this level can likely</b> express measurements in a smaller unit in terms of a larger unit within the same system, and  | <b>A student at this level can likely</b> use measurement conversions in solving one-step mathematical problems,                    | <b>A student at this level can likely</b> use measurement conversions in solving multi-step, mathematical problems,                         | <b>A student at this level can likely</b> use measurement conversions in solving multi-step, real-world problems,                                      |
| recognize a line plot that matches a data set of measurements in fractions of a unit ( $\frac{1}{2}$ , $\frac{1}{3}$ , $\frac{1}{8}$ ). | make a line plot that displays a data set of measurements in fractions of a unit ( $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{1}{8}$ ), | use addition and subtraction with fractions with unlike denominators to solve problems using a line plot display,                           | use multiplication of fractions and division of unit fractions and whole numbers to solve problems using a line plot display,                          |
|   | understand volume as a three-dimensional measure, and   | understand that volume can be found by packing a figure with unit cubes with no gaps or overlaps and measure that volume by counting,       |  |
|   |   | show and explain why the volume found by packing a prism with unit cubes is the same as multiplying the edge lengths,                       | show and explain why the volume found by multiplying the edge lengths is the same as by multiplying the height by the area of the base,                |

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|   | find the volume of a right rectangular prism by applying the formulas $V = l \times w \times h$ and $V = B \times h$ . | apply the formulas for rectangular prisms to find volume in mathematical problems with whole number edge lengths, and                        | apply the formulas for rectangular prisms to find volumes in real-world problems with whole number edge lengths, and                 |
|   |  | solve mathematical problems by finding the volume of a solid figure composed of non-overlapping prisms by adding the volumes together.       | solve real-world problems by finding the volume of a solid figure composed of non-overlapping prisms by adding the volumes together. |
| <b>Geometry</b>   |  |  |  |
| <b>Developing</b>   | <b>Approaching</b>   | <b>Meeting</b>   | <b>Advanced</b>  |
| <b>A student at this level can likely</b> identify the origin of a coordinate system, | <b>A student at this level can likely</b> identify how the numbers in an ordered pair correspond to x- and y-axes,     | <b>A student at this level can likely</b> understand an ordered pair as indicating how far to travel from the origin in a coordinate system, | <b>A student at this level can likely</b>  |
| recognize a plotted point in the first quadrant of the coordinate plane, and          | plot coordinate points in the first quadrant of the coordinate plane, and  | represent mathematical problems by graphing points in the first quadrant of the coordinate plane, and  | represent real-world problems by graphing points in the first quadrant of the coordinate plane, and                                  |
|   |  |  | interpret coordinate values in the context of the situation, and   |
| identify attributes of two-dimensional figures.                                       | identify shared attributes of two or more two-dimensional figures.   | classify two-dimensional figures in a hierarchy of properties.   | explain the classification of two-dimensional figures in a hierarchy of properties.  |