

Grade 3 Mathematics

The grade 3 mathematics assessment presents a variety of items representing the six strands of the Wisconsin Model Academic Standards for Mathematics: Mathematical Processes (*Reasoning, Communication, Connections, Representation, Problem Solving*), Number Operations and Relationships, Geometry, Measurement, Statistics and Probability, and Algebraic Relationships. Assessment items in each category may appear without context and within the context of real-world situations. All test items are either selected-response (multiple-choice) or constructed response format. Some items require the use of mathematical tools including two sets of pattern blocks and a ruler with 1/2 inch and millimeter intervals. Calculator use is prohibited for all sessions of the test. Students performing at each level draw on a broad range of mathematical knowledge while applying skills and strategies to solve real-world and non-routine mathematical problems. Each proficiency level presumes mastery at previous levels.

Advanced (452 and above)

At the beginning of third grade, students performing at the Advanced level use mathematical terminology or symbols to explain step-by-step strategies and reasoning and extend their explanations using a variety of methods to explain solutions. Students read and interpret number lines, determine the fractional part of a set and solve word problems using two and three-digit numbers. Students use grade appropriate mathematical vocabulary to identify and compare attributes of three-dimensional figures, demonstrate an understanding of the result of a flip of an everyday object and describe the position of a point on a first quadrant coordinate grid using letter, number coordinates. Students apply knowledge of measuring with standard and nonstandard units by measuring and comparing everyday objects. They compare, contrast, and analyze data to draw reasonable conclusions, and extend their mathematical knowledge to relate data from tables, bar graphs and spinners to real-world situations. Students analyze a table of number pairs to determine the pattern of change using addition or subtraction. (e.g. What's My Rule?), use number relationships to identify missing numbers on either side of the equal sign when using the operations of addition and subtraction, and recognize the operational relationships between addition and subtraction.

Proficient (407-451)

At the beginning of third grade, students performing at the Proficient level explain each step of a process using specific mathematical language when solving a multi-step problem. Students apply place value concepts in two- and three-digit numbers and skip count by 2, 3, 5, 10, 25, and 100; analyze and evaluate word problems to formulate solutions when working with one and two-digit numbers involving addition, subtraction or multiplication; and count coins up to one dollar and use dollar and cent signs to identify monetary amounts, represented by pictures. Students identify three-dimensional figures,

predict what shape will be formed when combining two-dimensional congruent shapes, and use letter/number coordinates to plot points on a first quadrant coordinate grid. Students measure real-world objects to the nearest inch or centimeter, estimate length, and determine reasonable standard and non-standard units for measuring everyday objects. They read and compare digital and analog clocks to the nearest minute. Students use data from tables, bar graphs, and spinners with unequal parts to draw conclusions. They identify numbers as even or odd when working with sets of twenty or less objects, describe a rule that is used in numeric or geometric patterns, and identify a missing number in an addition equation and apply their understanding of the commutative property of addition (e.g. the order of numbers does not affect the sum).

Basic
(392 – 406)

At the beginning of third grade, students performing at the Basic level use words, numbers or pictures to give partial explanations or explain a portion of the steps required to solve multi-step problems. Students add and subtract whole numbers in everyday situations. They identify place values up to hundreds when given a pictorial representation of a number and recognize a pictorial representation of a fraction when represented as a part of a whole, limited to $\frac{1}{2}$. Students identify and count the sides of two-dimensional shapes, visualize the results of combining two-dimensional shapes, and use letter/number coordinates to locate a picture on a first quadrant coordinate grid. Students choose the appropriate unit for measuring real-world objects and events. Students read simple bar graphs, tables and grids to compare data and use vocabulary such as “least likely” and “most likely” to describe the likelihood of an event. Students recognize simple number patterns and determine missing numbers within the pattern. They determine missing numbers in operations and demonstrate an understanding that the equal sign means “the same as” when the missing number is on either side of the equal sign.

Minimal Performance
(391 and below)

At the beginning of third grade, students performing at the Minimal Performance level explain solutions in brief simple ways. Students order whole numbers, identify place values up to the tens, identify a number of items in an array or set by using basic skills such as counting, and estimate sums and differences. Students identify two-dimensional shapes and their attributes including vertices (corners) and shapes formed by combining other two-dimensional shapes. They demonstrate some knowledge of locating a point on the first quadrant of a coordinate grid using simple letter, number coordinates (A, 3). Students may identify units of measure to measure real-world items using US customary and metric units on a ruler, estimate length to the nearest inch, and use non-standard units to estimate length. Students may read simple pictographs where the key represents one object and

identify the likelihood of a simple event involving a spinner. Students may recognize simple geometric patterns, determine a missing element in a pattern, demonstrate an understanding that the equal sign means “the same as” even if the operation is to the right of the equal sign, and identify missing operations.