

MSAA 2017
Individual Student Reports (ISR) Performance Level Descriptors (PLDs)

Grade 11 Mathematics

Level 1

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: solve simple real world problems with numerals and symbols; write equations; represent quantities in multiple combinations; complete the formula for area of a figure; determine whether a given point is or is not part of a data set shown on a graph; and identify an extension of a line graph.

Level 2

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: solve simple word problems using mathematical language and symbolic representations (e.g., $<$, $>$, $=$, x , y), write equations that contain a variable; solve a real world problem using a line graph; calculate the mean and median of a set of data; identify the hypotenuse of a right triangle; the greatest or least value of data shown on a number line; the missing label on a histogram; and a model that represents a square number.

Level 3

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: demonstrate an understanding of how to represent and interpret data using histograms; work with exponents; identify features of a three-dimensional figure; use measurements to find similar triangles; solve real world problems using mathematical language, symbolic representations (e.g., $<$, $>$, $=$) and variables (x , y) or with a line graph; solve real world measurement problems that require unit conversion; calculate the mean and median of a set of data; and make predictions from data tables and graphs to solve problems.

Level 4

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: demonstrate an understanding of how to represent and interpret data using histograms; work with exponents; identify features of a three-dimensional figure; use measurements to find similar triangles; apply appropriate concepts of quantities and operations to mathematical situations to solve real world problems using variables (x , y) or with a line graph; solve real world measurement problems that require unit conversion; calculate the mean and median of a set of data; and make predictions from data tables and graphs to solve problems.

Grade 3 Mathematics

Level 1

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: solve simple addition problems with numerals and symbols; read a pictograph; identify growing patterns with pictures, objects, or shapes; identify the number of parts shaded in an object; identify an object that has the greater number of parts shaded; and identify an object divided in two equal parts.

Level 2

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: solve simple addition, subtraction, and multiplication problems using mathematical language and symbolic representations (e.g., $<$, $>$, $=$); use objects to represent a multiplication problem; identify the next term in a list of numbers that follow a pattern; identify a number nearer to 1 or 10; and identify a rectangle that is divided into equal parts.

Level 3

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: solve addition, subtraction, and multiplication problems using mathematical language and symbolic representations (e.g., $<$, $>$, $=$); check the correctness of an answer; find the missing term in a list of numbers that follow a pattern; round numbers; identify figures divided into equal parts; compare fraction models; count unit squares to total the area of a rectangle; and complete a bar graph.

Level 4

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: find the missing term in a list of numbers that follow a pattern; compare fractions with different numerators and the same denominator; round numbers; apply appropriate concepts of quantities and operations to mathematical situations to solve addition, subtraction, and multiplication word problems; check the correctness of an answer; count unit squares to total the area of a rectangle; and complete a bar graph.

Grade 4 Mathematics

Level 1

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: solve simple problems with numerals and symbols related to rounding whole numbers; understand the meaning of equivalent whole numbers and fractions; identify a rectangle with the larger or smaller perimeter; identify the greatest value in a bar graph; and identify the sides and angles of a rectangle.

Level 2

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: solve simple multiplication problems using mathematical language and symbolic representations (e.g., $<$, $>$, $=$); round numbers; identify parts and wholes; identify equivalent fractions; identify one set of objects divided into two equal parts; identify the parts of 2-dimensional shape; and compute the perimeter of a rectangle.

Level 3

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: solve multiplication word problems using mathematical language and symbolic representations (e.g., $<$, $>$, $=$); check the correctness of an answer; show division of objects into two equal groups; round numbers; identify equivalent and non-equivalent fractions; sort a set of 2-dimensional shapes; compute the perimeter of a rectangle; and transfer data to a graph.

Level 4

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: round numbers; identify equivalent and non-equivalent fractions with different denominators; sort a set of 2-dimensional shapes; transfer data to a graph; apply appropriate concepts of quantities and operations to mathematical situations to solve multiplication word problems; check the correctness of an answer; divide a set of objects into equal groups; and compute the perimeter of a rectangle.

Grade 5 Mathematics

Level 1

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: solve simple subtraction problems with numerals and symbols; identify place values; measure with feet and yards; read time on an analog clock; read graphs; and recognize how one set of objects can be divided into two equal parts.

Level 2

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: solve simple problems with decimals using mathematical language and symbolic representations (e.g., $<$, $>$, $=$); identify place values; round decimal numbers; identify the effects of addition and multiplication; identify a representation of addition of fractions; and convert standard measurements.

Level 3

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: solve problems with whole numbers, fractions or decimals using mathematical language and symbolic representations (e.g., $<$, $>$, $=$); identify place values; round decimals; identify the effects of multiplication; convert standard measurements including minutes and hours; locate a given point on a coordinate plane; and make comparisons between data sets.

Level 4

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: identify place value; round decimals; convert standard measurements including minutes and hours; locate a given point on a coordinate plane when given an ordered pair; apply appropriate concepts of quantities and operations to mathematical situations to solve word problems with whole numbers, fractions, or decimals; and make comparisons between line graphs.

Grade 6 Mathematics

Level 1

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: solve simple problems with numerals and symbols related to percent, rates, number lines, and area; identify what an unknown represents in an equation; and describe data sets.

Level 2

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: solve simple problems with whole numbers or decimals using mathematical language and symbolic representations (e.g., $<$, $>$, $=$) about ratios, negative numbers, and fractions; describe data sets; and solve real world measurement problems using percent or rates.

Level 3

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: demonstrate an understanding of positive and negative values on a number line; describe mean, median or mode in a data set; solve problems with whole numbers or decimals using mathematical language and symbolic representations (e.g., $<$, $>$, $=$); solve word problems with percent, ratios, rates, or with a variable; and compute the area of a parallelogram.

Level 4

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: demonstrate an understanding of positive and negative values; describe mean, median or mode in a data set; apply appropriate concepts of quantities and operations to mathematical situations to solve problems using three-digit numbers or decimals; solve word problems with percent, ratios, rates, or with a variable; and compute the area of a parallelogram.

Grade 7 Mathematics

Level 1

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: solve simple problems with numerals and symbols related to a negative number and its multiplication or division by a positive number; identify surface area, area and circumference of a circle; and read a bar graph.

Level 2

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: solve simple multiplication problems with positive/negative whole numbers using mathematical language and symbolic representations (e.g., $<$, $>$, $=$); identify the meaning of an unknown variable in an equation; describe a ratio; identify the surface area of a three-dimensional figure; and determine when a graph of a data set is increasing or decreasing.

Level 3

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: demonstrate an understanding of ratios and rates; identify proportional measures of two quantities; solve multiplication and division problems using mathematical language and symbolic representations (e.g., $<$, $>$, $=$) with positive/negative whole numbers, percent, ratios or unknowns; and compute the area of a circle, and surface area of a three-dimensional shape.

Level 4

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: demonstrate an understanding of ratios and rates; identify proportional relationships between two quantities shown in a table or graph; apply appropriate concepts of quantities and operations to mathematical situations to solve problems using positive/negative whole numbers, percent, ratios or unknowns; and compute the area of a circle and surface area of a three-dimensional shape.

Grade 8 Mathematics

Level 1

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: solve simple problems with numerals and symbols related to decimal numbers; identify congruent and similar shapes, and surface area; plot points on a graph; and identify larger and smaller quantities presented in a graph.

Level 2

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: solve simple problems using mathematical language and symbolic representations (e.g., $<$, $>$, $=$, x , y); identify and describe proportional measures of two quantities presented in graphs and data tables; identify the y -intercept of a graph; match congruent or similar figures; and relate a graph to the context of a word problem.

Level 3

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: determine approximate value of irrational numbers; identify congruent and similar figures; describe the relationship between two variables shown on a graph; plot data on a graph; use mathematical language and symbolic representations (e.g., $<$, $>$, $=$, x , y) to solve problems about: slope of a linear graph; the change in area of a figure when its dimensions are changed; and the volume of a cylinder.

Level 4

Children performing at this level use built-in supports to show what they know and can do. A child is generally able to: demonstrate an understanding of congruent and similar figures; determine approximate value of irrational numbers; identify and describe the relationship between two variables shown on a graph; plot data on a graph; apply appropriate concepts of quantities and operations to mathematical situations to solve problems about: linear equations; slope of a linear graph, the change in area of a figure when its dimensions are changed; and the volume of a cylinder.