Recommended Revisions to the NAEP Math Reporting ALDs for 2026

Table 1. Mathematics Grade 4 – Recommended 2026 Reporting ALDs

Achievement Level	Reporting ALDs
NAEP Basic	In Number Properties and Operations, students performing at the *NAEP Basic* achievement level likely can • determine place value of whole numbers up to hundred thousands • locate whole numbers on a number line • read, write, compose, and decompose multi-digit whole numbers in a variety of forms based on place value • identify even and odd numbers and understand factors • add and subtract multi-digit whole numbers with single-step and/or regrouping • understand inverse operations and their properties and apply concepts of multiplication In Measurement, students performing at the *NAEP Basic* achievement level likely can • identify appropriate measurement tools in real-world scenarios • measure or estimate lengths of objects in standard and non-standard units • find the perimeter of polygons given a visual aid In Geometry, students performing at the *NAEP Basic* achievement level likely can • identify and compare attributes of polygons as well as 3d shapes In Data Analysis, Statistics, and Probability, students performing at the *NAEP Basic* achievement level likely can • correlate information between tables and data displays • read and interpret tables and scaled graphs In Algebra, students performing at the *NAEP Basic* achievement level likely can • identify the rule for a pattern and extend, complete, or determine missing numbers in patterns • complete input/output tables

	In applying Mathematical Practices, students performing at the *NAEP Basic* achievement level likely can • interpret physical, visual, and symbolic representations to identify relevant information in a problem • use or connect representations of a situation to solve problems • recognize a pattern, generalize a rule, and use the rule to continue the pattern • use given examples or evidence to verify mathematical claims • identify measurable attributes in a simple real-world situation to solve a problem • consider another person's mathematical reasoning and determine an appropriate response
NAEP Proficient	In Number Properties and Operations, students performing at the *NAEP Proficient* achievement level likely can • demonstrate an understanding of the relationships between the four operations (addition, subtraction, multiplication, and division) • add and subtract multi-digit whole numbers, fractions, and decimals in single and multi-step problems • apply basic properties of operations to solve problems • divide with whole numbers using one-digit divisors and understand remainders • solve problems with real-world contexts involving fractions with like denominators • identify and explain factors • compare and order whole numbers • identify, understand, and sort even and odd numbers • identify and compare decimals, fractions, and whole numbers on a number line • identify reasonable estimates In Measurement, students performing at the *NAEP Proficient* achievement level likely can • identify appropriate units or tools of measurement within the same system • convert measurements within the same system • measure lengths of objects to the nearest whole or ½ unit • solve or estimate problems involving area In Geometry, students performing at the *NAEP Proficient* achievement level likely can • demonstrate knowledge of 2D shapes by identifying, comparing, contrasting, and analyzing their attributes and describe attributes of 3D shapes with support of visual aids • create parallel lines In Data Analysis, students performing at the *NAEP Proficient* achievement level likely can

	• interpret and analyze data with scales of 2 or greater to solve problems In Algebra, students performing at the *NAEP Proficient* achievement level likely can • select expressions and equations to represent real-world situations • solve one-step equations with whole numbers • determine and/or apply rules to write, identify, or extend values in input/output tables In applying Mathematical Practices, students performing at the *NAEP Proficient* achievement level likely can • interpret information from visual and symbolic representations to solve problems • recognize or create a representation that models a real-world situation • identify patterns and relationships, apply rules across cases, and use rules to determine unknown values • evaluate a mathematical claim or rule and provide evidence to support or refute it • model a real-world situation with mathematics to describe solutions or solve problems • use or extend another person's reasoning to solve a problem
NAEP Advanced	In Number Properties and Operations, students performing at the *NAEP Advanced* achievement level likely can • compare and order whole numbers, fractions, and decimals to hundredths • apply understanding of factors and multiples and the structure of all operations with whole numbers • understand and use inverse operations • multiply and divide 2- and 3-digit whole numbers with no remainders In Measurement, students performing at the *NAEP Advanced* achievement level likely can • select appropriate and reasonable measurements in real-world scenarios • know vocabulary and units associated with area, perimeter, and volume • solve one-step and multi-step problems involving area and/or perimeter In Geometry, students performing at the *NAEP Advanced* achievement level likely can • identify and apply attributes of 2D and 3D shapes in more complex contexts • compose and decompose 2D shapes to create more complex shapes • identify, draw and/or describe parallel lines In Data Analysis, students performing at the *NAEP Advanced* achievement level likely can

	• interpret and analyze data from single or multiple line, bar, and circle graphs In Algebra, students performing at the *NAEP Advanced* achievement level likely can • select expressions and equations to represent real-world situations with unknowns in all positions • solve for unknowns in all positions with division of whole numbers • determine, apply, and/or write a rule for a given pattern or input/output table as well as extend patterns and input/output tables In applying Mathematical Practices, students performing at the *NAEP Advanced* achievement level likely can • interpret, connect, compare, or create visual and symbolic representations to solve problems • generalize a rule from several cases, test whether it holds for all cases, and apply it to solve problems • evaluate a statement, procedure, or argument by supporting or refuting a mathematical claim • create, apply, or test a mathematical model to solve complex real-world problems

Note: The content descriptions represented within the reporting ALD statements are intended to reflect the content defined within the framework.

Table 2. Mathematics Grade 8 – Recommended 2026 Reporting ALDs

Achievement Level	Reporting ALDs
NAEP Basic	In Number Properties and Operations, students performing at the *NAEP Basic* achievement level likely can • simplify expressions involving integers • use operations to solve real-world problems involving integers or fractions • use proportional relationships to find equivalent ratios and create fractions and fractional relationships, with or without models • demonstrate understanding of scientific notation In Measurement, students performing at the *NAEP Basic* achievement level likely can

	• reason and determine measurements, including length, area, and volume, with descriptions, labeled diagrams, and units provided • apply proportional reasoning to solve problems in context using scale factor, distance, unit conversion and quantities • apply simple scale factor value to find unknown lengths of triangles and rectangles without setting up a proportion In Geometry, students performing at the *NAEP Basic* achievement level likely can • find a missing angle in a triangle given two angles and understand that angles of a triangle add to 180 degrees • recognize quadrilaterals given a description of their shared attributes In Data Analysis, students performing at the *NAEP Basic* achievement level likely can • interpret, create, and/or compare different data set representations to determine a specific set of values for mean, mode, and range while identifying errors and appropriateness In Algebra, students performing at the *NAEP Basic* achievement level likely can • use a coordinate plane to identify and plot coordinate points precisely • find the distance between points • recognize and extend patterns within an arithmetic or geometric sequence of numbers in a list or table (arithmetic, geometric) to solve problems in context • identify, solve, and/or evaluate one- and two-step equations, and apply slope, given linear relationships In applying Mathematical Practices, students performing at the *NAEP Basic* achievement level likely can • translate among verbal, numeric, algebraic, and graphical representations within a given context • interpret commonly encountered graphs, tables, data displays, figures, and equations to identify relationships, make predictions, and draw a conclusion • create, complete, or apply graphs, data displays, figures, and equations to represent and solve problems within a given context • identify and extend patterns in numbers and data
NAEP Proficient	In Number Properties and Operations, students performing at the *NAEP Proficient* achievement level likely can • demonstrate an understanding of using and creating ratios to solve problems mathematically or in context • calculate GCF and LCM • perform basic operations with rational numbers to solve problems in context while applying proper units and converting between fractions, decimals, and percent

	• compare and order rational numbers with rational or common irrational numbers with or without a number line • apply problem-solving strategies to solve square roots and ratio and proportions In Measurement, students performing at the *NAEP Proficient* achievement level likely can • demonstrate an understanding of solving problems that relate to comparing measures of two or three dimensions of space • determine possible dimensions given area and volume as well as select appropriate units of measure and apply scale factor to area • solve problems involving capacity, area, and weight • classify angle measurements using diagrams and protractors In Geometry, students performing at the *NAEP Proficient* achievement level likely can • understand concepts of parallel and perpendicular lines • use angle relationships and/or measurements formed when parallel lines are cut by a transversal. • apply concepts of corresponding parts between similar and congruent figures with some containing composite shapes in context • apply problem-solving strategies to solve Pythagorean Theorem problems • solve problems in context by creating a figure in the coordinate plane that satisfies area and perimeter criteria • reflect a shape on the coordinate plane over the x- and y-axis and plot some of the corresponding points • determine unknown side lengths by decomposing a polygon using given constraints • determine coordinates of missing endpoints of vertical or horizontal line segments on a coordinate plane In Data Analysis, students performing at the *NAEP Proficient* achievement level likely can • use problem solving skills to make calculations based on multiple representations of data sets in context to determine measures of central tendencies, theoretical probability, and basic probability concepts • estimate values along the line of best fit • identify sources of bias in a sample design • calculate the mean from tables of data in multiple sets of values In Algebra, students performing at the *NAEP Proficient* achievement level likely can • create, model, identify, and solve one-step inequalities and multi-step equations with or without context and with or without constraints • evaluate and extend sequential and recursive patterns using tables, models, multiple steps or from translating a written description • graph and identify key features of linear and nonlinear functions

	• recognize the effects on a graph when the slope and y-intercept are changed In applying Mathematical Practices, students performing at the *NAEP Proficient* achievement level can likely • interpret and translate among graphs, data displays, inequalities, and equations to find key features and use them to compare, predict, and make decisions within a given context • generalize and extend patterns in numerical, graphical, tabular, or contextual representations and describe them with a general rule • use a generalization to support or refute mathematical claims using calculations, examples, counterexamples, and graphs • identify relevant information in a scenario or context, represent it with a model, and use the model to make decisions and determine a solution • use information shared in a collaborative setting and select or use valid mathematical evidence to evaluate, compute, estimate, or reach a conclusion
NAEP Advanced	In Number Properties and Operations, students performing at the *NAEP Advanced* achievement level likely can • solve mathematical problems and problems in context with rational numbers including absolute values and variables by interpreting, creating and using diagrams • engage with abstract situations and apply properties such as even and/or odd numbers, divisibility rules, and prime and composite numbers in mathematic situations In Measurement, students performing at the *NAEP Advanced* achievement level likely can • create a proportion to represent scale in context and analyze number lines with fractional intervals • use ratios and proportion to find and/or explain measurements in multi-step situations, including unit rate and speed/distance • solve problems involving area including composing and decomposing complex figures • estimate length and measure using tools appropriately in context In Geometry, students performing at the *NAEP Advanced* achievement level likely can • understand angle relationships formed when parallel lines are cut by a transversal(s) to solve complex problems • determine relative positions of points using the geometric ideas of midpoint involving directionality on the coordinate plane • classify geometric solids by their properties and recognize cross-sections of plane and solid figures predicting results of subdividing complex plane figures in a variety of ways • apply definitions and basic properties of circles to solve problems involving angle relationships • evaluate proportionality and similarity to find unknown values • use the sum of interior angles of polygons to solve problems

	• demonstrate knowledge of the faces of geometric solids • determine unknown sides of triangles using Pythagorean Theorem or similar triangles In Data Analysis, students performing at the *NAEP Advanced* achievement level likely can • analyze and compare problems using problem-solving skills to make calculations and connections based on multiple representations of data sets to determine measures of central tendencies and their effect, theoretical and experimental probability, and basic probability concepts • use a line of best fit or line graph to make predictions and interpretations • analyze and critique graphical displays to justify appropriateness and solve problems In Algebra, students performing at the *NAEP Advanced* achievement level likely can • interpret, analyze, apply, and justify mathematical or contextual linear and nonlinear relationships and their key features represented through equations, tables, and graphs of a line, including with scales other than 1 • evaluate, interpret, justify, solve, and write multiple-step equations and/or expressions and inequalities with fractions and/or multiple variables in contextual situations with or without constraints In applying Mathematical Practices, students performing at the *NAEP Advanced* achievement level likely can • analyze and coordinate relevant quantities, relationships, parameters, and constraints presented in multiple representations to produce mathematically or contextually appropriate results • construct mathematical arguments, including counterexamples, that use evidence to justify or refute claims • create mathematical representations within a given context, explain what they mean, and use them to make supported recommendations or decisions

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