Nebraska

Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

Mathematics–Grade 5

Table of Specifications

for
Students with Significant Disabilities
who take the
Statewide Alternate Assessment

Mathematics Grade 5 Alternate Assessment Table of Specifications	DOK Stage 2	DOK Stage 3	DOK Stage 4	Item Total
Number				
Numeric Relationships: Students will understand the place value system.				
5.N.1.a Read, write, and demonstrate multiple equivalent representations for multi-digit whole numbers and decimals through the thousandths place using standard form and expanded form.				
5.N.1.a Identify representations of whole numbers up to 200.	0-2	0-4	0-2	0-4
5.N.1.c Use whole number exponents to denote powers of 10.				
5.N.1.c Represent 10, 100, 1,000, or 10,000 as a power of 10.	0-2	0-4	0-2	0-4
Fraction and Decimals: Students will extend understanding of fraction and decimal equivalence and ordering.				
5.N.2.a Generate equivalent forms of commonly used fractions and decimals (e.g., halves, fourths, fifths, tenths).				
5.N.2.a Use models to represent equivalent fractions with denominators up to 10 (e.g., 2/4 = 1/2, 3/3 = 1 whole).	0-2	0-4	0-2	0-4
5.N.2.b Represent and justify comparisons of whole numbers, fractions, mixed numbers, and decimals through the thousandths place using number lines, reasoning strategies, and/or equivalence.				
5.N.2.b Use symbols <, >, and = to compare and order whole numbers up to 200.	0-2	0-4	0-2	0-4
Operations with Fractions and Decimals: Students will apply and extend previous understandings of whole number operations to add, subtract, multiply, and divide fractions and decimals.				
5.N.3.b Multiply a whole number by a fraction or a fraction by a fraction, including mixed numbers, using visual fraction models and properties of operations.				
5.N.3.b Use a visual model to multiply the fractions 1/3, 1/2, and 1/4 by each other and by the whole numbers 2, 3, and 4.	0-2	0-4	0-2	0-4
5.N.3.c Divide a unit fraction by a whole number and a whole number by a unit fraction using visual fraction models and properties of operations.				
5.N.3.c Use a visual model to divide a whole number by 1/3, 1/2, or 1/4 (e.g., 3 divided by 1/2).	0-2	0-4	0-2	0-4
5.N.3.d Solve authentic problems involving addition, subtraction, and multiplication of fractions and mixed numbers with like and unlike denominators.				
5.N.3.d Use a visual model to solve authentic problems involving addition, subtraction, or multiplication of fractions.	0-2	0-4	0-2	0-4
5.N.3.e Add and subtract fractions and mixed numbers with unlike denominators without simplifying.				
5.N.3.e Use a visual model to add and subtract fractions with like denominators of halves, thirds, fourths, and fifths, limited to minuends and sums with a maximum of 1 whole.	0-2	0-4	0-2	0-4
5.N.3.f Solve authentic problems involving division of fractions by whole numbers and division of whole numbers by unit fractions.				
5.N.3.f Use a visual model to solve authentic problems involving division of whole numbers by the fractions 1/3, 1/2, or 1/4.	0-2	0-4	0-2	0-4

5.N.3.g Add, subtract, multiply, and divide decimals to hundredths using strategies based on place value, properties of operations, and/or algorithms.				
5.N.3.g Add and subtract two decimal numbers without regrouping, limited to 0–10 with at most one decimal place (e.g., 5.2 + 3.7).	0-2	0-4	0-2	0-4
Algebra				
Operations and Algebraic Thinking: Students will extend understanding of division and apply operational properties to solve problems involving order of operations.				
5.A.1.a Multiply multi-digit whole numbers using an algorithm.				
5.A.1.a Multiply the numbers 1–9 by single-digit numbers and 10, and multiply two-digit numbers 11–20 by single-digit numbers 1–5.	0-2	0-4	0-2	0-4
5.A.1.b Divide four-digit whole numbers by a two-digit divisor, with and without remainders, using strategies based on place value.				
5.A.1.b Divide a two-digit whole number by a single-digit whole number, limited to quotients with no remainders.	0-2	0-4	0-2	0-4
5.A.1.c Justify the reasonableness of computations involving whole numbers, fractions, and decimals.				
5.A.1.c Estimate the sum of two decimal numbers, limited to 0–10 with at most one decimal place (e.g., 5.2 + 3.7 is about 9).	0-2	0-4	0-2	0-4
5.A.1.d Solve authentic numerical or algebraic expressions using order of operations (excluding exponents).				
5.A.1.d Evaluate two-step numerical expressions involving addition or subtraction and multiplication using order of operations, limited to the digits 1–5 (e.g., 4 × (5 - 2), 4 + 2 × 3).	0-2	0-4	0-2	0-4
Geometry				
Shapes and Their Attributes: Students will classify two-dimensional figures into categories based on their properties.				
5.G.1.a Identify and describe faces, edges, and vertices of rectangular prisms.				
5.G.1.a Identify the faces, edges, and vertices of cubes and other rectangular prisms.	0-2	0-4	0-2	0-4
5.G.1.b Recognize volume as an attribute of solid figures that is measured in cubic units.				
5.G.1.b Identify the difference between two-dimensional (flat) and three-dimensional (solid) figures.	0-2	0-4	0-2	0-4
5.G.1.c Justify the classification of two-dimensional figures in a hierarchy based on their properties.				
5.G.1.c Classify triangles as acute, right, or obtuse.	0-2	0-4	0-2	0-4
Coordinate Geometry: Graph points on the coordinate plane to solve authentic problems.				
5.G.2.a Identify the origin, x axis, and y axis of the coordinate plane.				
5.G.2.a Identify the origin, x-axis, and y-axis of a coordinate plane.	0-2	0-4	0-2	0-4
5.G.2.b Graph and name points in the first quadrant of the coordinate plane using ordered pairs of whole numbers.				
5.G.2.b Identify the x- or y-coordinate of a point in the first quadrant of a coordinate plane.	0-2	0-4	0-2	0-4

5.G.2.c Form ordered pairs from authentic problems involving rules or patterns and graph the ordered pairs in the first quadrant on a coordinate plane and interpret coordinate values in the context of the situation.				
5.G.2.c Graph and name points in the first quadrant of a coordinate plane using ordered pairs of whole numbers.	0-2	0-4	0-2	0-4
Measurement: Generate conversions within the customary and metric systems of measurement to solve authentic problems.				
5.G.3.a Generate conversions in authentic mathematical situations from larger units to smaller units and smaller units to larger units, within the customary and metric systems of measurement.				
5.G.3.a Generate simple conversions from larger units to smaller units and smaller units to larger units in authentic mathematical situations, limited to inches/feet, minutes/hour, and feet/yards.	0-2	0-4	0-2	0-4
Area and Volume: Students will extend area problems for rectangles to include fractions and build meaning for measuring volume.				
5.G.4.c Use concrete models to measure the volume of rectangular prisms by counting cubic units.				
5.G.4.c Use concrete and/or visual models to measure the volume of rectangular prisms by counting unit cubes.	0-2	0-4	0-2	0-4
5.G.4.d Find the volume of a rectangular prism with whole-number side lengths by modeling with unit squares and show that the volume can be additive and is the same as would be found by multiplying the area of the base times height.				
5.G.4.d Find the volume of a cube or another rectangular prism with whole-number side lengths by counting unit cubes and showing that repeated addition is the same as multiplying the side lengths (e.g., 9 + 9 + 9 = 27 unit cubes in a 3 × 3 × 3 cube).	0-2	0-4	0-2	0-4
5.G.4.e Solve authentic problems by applying the formulas V = l × w × h and V = B × h for rectangular prisms to find volumes of rectangular prisms with whole number edge lengths.				
5.G.4.e Use visual models to solve authentic problems by counting unit cubes to find the volume of rectangular prisms.	0-2	0-4	0-2	0-4
Data				
Analyze Data and Interpret Results: Students will analyze the data and interpret the results.				
5.D.2.a Represent, analyze, and solve authentic problems using information presented in one or more tables or line plots including whole numbers and fractions.				
5.D.2.a Represent data on tables, pictographs, bar graphs, and line plots.	0-3	1-6	0-3	3-6