

# North Dakota Priority Standards and Proficiency Scales

MATHEMATICS  
Priority Standards

## GRADE 3

Domain	Code	Standard Description	Essential Vocabulary
Operations and Algebraic Thinking	3.OA.3	Using drawings and equations with a symbol for an unknown number, solve multiplication and division word problems within 100 in situations involving equal groups, arrays, and measurement quantities.	equation, unknown number, array
	3.OA.5	Apply properties of operations as strategies to multiply and divide (without the use of formal terms).	Score 5
	3.OA.7	Using mental strategies, fluently multiply and divide within 100.	
	3.OA.8	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies.	variable, reasonableness, estimation
Number and Operations Base Ten	3.NBT.1	Use place value understanding to round whole numbers to the nearest 10 or 100.	Score 5
	3.NBT.2	Using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction, fluently add and subtract within 1000.	place value, order of operation, fluency
Number and Operations - Fractions	3.NF.1	Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into $b$ equal parts. Understand a fraction $a/b$ as the quantity formed by " $a$ " parts of size $1/b$ .	fraction
	3.NF.2	Understand a fraction as a number on the number line; represent fractions on a number line diagram. <ul style="list-style-type: none"> <li>a) Represent a fraction <math>1/b</math> on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into <math>b</math> equal parts. Recognize that each part has size <math>1/b</math> and that the endpoint of the part based at 0 locates the number <math>1/b</math> on the number line.</li> <li>b) Represent a fraction <math>a/b</math> on a number line diagram by marking off a lengths <math>1/b</math> from 0. Recognize that the resulting interval has size <math>a/b</math> and that its endpoint locates the number <math>a/b</math> on the number line.</li> </ul>	number line



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	<p>3.NF.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.</p> <ul style="list-style-type: none"> <li>a) Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. Recognize and generate simple equivalent fractions.</li> <li>b) Explain why the fractions are equivalent using a visual fraction model.</li> <li>c) Recognize fractions, <math>a/1</math> or <math>a/a</math>, that are equivalent to whole numbers. Express whole numbers as fractions, <math>a/1</math> or <math>a/a</math>.</li> <li>d) Compare two fractions with the same numerator or the same denominator by reasoning about their size.</li> <li>e) Recognize that comparisons are valid only when the two fractions refer to the same whole.</li> <li>f) Record the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify the conclusions by using a visual fraction model.</li> </ul>	<p>equivalent, compare, numerator, denominator</p>
<p>Measurement and Data</p>	<p>3.MD.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve elapsed time word problems on the hour and the half hour, using a variety of strategies.</p>	<p>minute, hour, elapsed time, interval</p>
	<p>3.MD.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked in appropriate units—whole numbers, halves, or quarters.</p>	<p>halves, fourths, quarters, line plot, horizontal</p>
	<p>3.MD.7 Relate area to the operations of multiplication and addition.</p> <ul style="list-style-type: none"> <li>a) Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.</li> <li>b) Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.</li> <li>c) Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths <math>a</math> and <math>b + c</math> is the sum of <math>a \times b</math> and <math>a \times c</math>. Use area models to represent the distributive property in mathematical reasoning.</li> <li>d) Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems</li> </ul>	<p>area, products</p>



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	3.MD.8	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths. Find an unknown side length. Exhibit rectangles with the same perimeter and different area or with the same area and different perimeters	perimeters, polygons
Geometry	3.G.1	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals. Draw examples of quadrilaterals that do not belong to any of these subcategories	attributes, rhombus, rectangle, square, quadrilateral
	3.G.2	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.	Score 5 equal parts, unit fraction

