

# North Dakota Mathematics Content and Achievement Standards

## Kindergarten

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### North Dakota Department of Public Instruction

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## Standard 1: Number and Operation

Standard 1: Students understand and use basic and advanced concepts of number and number systems..				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
<b>Kindergarten</b>				
<b>NUMBERS, NUMBER RELATIONSHIPS, AND NUMBER SYSTEMS</b>				
K.1.1. Count to 20	Students count forward to 20 and backward from 10 with ease and with no errors.	Students count forward to 20 and backward from 10 with minimal difficulty and with no significant errors.	Students count forward to 20 and backward from 10 with difficulty or with a few significant errors.	Students count forward to 20 and backward from 10 with great difficulty or with many significant errors.
K.1.2. Count backward from 10 to 1	Students count up to 10 objects with ease.	Students count up to 10 objects with minimal difficulty.	Students count up to 10 objects with difficulty.	Students count up to 10 objects with great difficulty.
K.1.3. Demonstrate one-to-one correspondence by counting up to 10 objects	Students identify ordinal numbers to 5 <sup>th</sup> with ease and with no errors.	Students identify ordinal numbers 1 <sup>st</sup> to 5 <sup>th</sup> with minimal difficulty and with no significant errors.	Students identify ordinal numbers 1 <sup>st</sup> to 5 <sup>th</sup> with difficulty or with a few significant errors.	Students identify ordinal numbers 1 <sup>st</sup> to 5 <sup>th</sup> with great difficulty or with many significant errors.
K.1.4. Identify ordinal numbers to order objects, 1 <sup>st</sup> - 5 <sup>th</sup>	Students identify and write numerals to 10 with ease and with no errors.	Students identify and write numerals to 10 with minimal difficulty and with no significant errors.	Students identify and write numerals to 10 with difficulty or with a few significant errors.	Students identify and write numerals to 10 with great difficulty or with many significant errors.
K.1.5. Identify and write numerals to 10	Students determine the relationship between sets of objects up to 10 with no errors.	Students determine the relationship between sets of objects up to 10 with no significant errors.	Students determine the relationship between sets of objects up to 10 with a few significant errors.	Students determine the relationship between sets of objects up to 10 with many significant errors.
K.1.6. Determine the relationship between two sets with 10 or fewer objects; i.e., less than, greater than, or equal to	Students use concrete materials to represent wholes and halves with no errors.	Students use concrete materials to represent wholes and halves with no significant errors.	Students use concrete materials to represent wholes and halves with a few significant errors.	Students use concrete materials to represent wholes and halves with many significant errors.
K.1.7. Use concrete materials to represent wholes and halves				
<b>OPERATIONS AND THEIR PROPERTIES</b>				
<i>No benchmark expectations at this level</i>				

Standard 1: Students understand and use basic and advanced concepts of number and number systems..				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
COMPUTATIONAL FLUENCY AND ESTIMATION  <i>No benchmark expectations at this level</i>				

## Standard 2: Geometry and Spatial Sense

Standard 2: Student understands and applies geometric concepts and spatial relationships to represent and solve problems in mathematical and nonmathematical situations.				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
<b>Kindergarten</b>				
<b>TWO- AND THREE-DIMENSIONAL SHAPES, GEOMETRIC PROPERTIES AND RELATIONSHIPS</b>				
K.2.1. Identify and reproduce two-dimensional figures; i.e., circle, triangle, rectangle, and square	Students identify and reproduce two-dimensional figures with no errors.	Students identify and reproduce two-dimensional figures with no significant errors.	Students identify and reproduce two-dimensional figures with a few significant errors.	Students identify and reproduce two-dimensional figures with many significant errors.
K.2.2. Match a three-dimensional object with its stated name; i.e., cone, sphere, cube, cylinder (e.g., which of these is a cone?)	Students match a three-dimensional object with its name with no errors.	Students match a three-dimensional object with its name with no significant errors.	Students match a three-dimensional object with its name with a few significant errors.	Students match a three-dimensional object with its name with many significant errors.
<b>COORDINATE GEOMETRY</b>				
<i>No benchmark expectations at this level</i>				
<b>TRANSFORMATION AND SYMMETRY</b>				
<i>No benchmark expectations at this level</i>				
<b>VISUALIZATION, SPATIAL REASONING, AND GEOMETRIC MODELING</b>				
K.2.3. Identify position and direction; i.e., inside, outside, between, above, below, behind, left, and right	Students use terms to identify position and direction with no errors.	Students use terms to identify position and direction with no significant errors.	Students use terms to identify position and direction with a few significant errors.	Students use terms to identify position and direction with many significant errors.

### Standard 3: Data Analysis, Statistics, and Probability

Standard 3: Students use data collection and analysis techniques, statistical methods, and probability to solve problems.				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
<b>Kindergarten</b>				
<b>DATA COLLECTION, DISPLAY, AND INTERPRETATION</b>				
K.3.1. Sort objects according to a given attribute; e.g., use, size, color, shape	Students sort objects according to a given attribute with no errors.	Students sort objects according to a given attribute with no significant errors.	Students sort objects according to a given attribute with a few significant errors.	Students sort objects according to a given attribute with many significant errors.
K.3.2. Read and interpret picture graphs as sources of information	Students read and interpret information in picture graphs with no errors.	Students read and interpret information in picture graphs with no significant errors.	Students read and interpret information in picture graphs with a few significant errors.	Students read and interpret information in picture graphs with many significant errors.
<b>PROBABILITY</b>				
<i>No benchmark expectations at this level</i>				
<b>STATISTICAL METHODS</b>				
<i>No benchmark expectations at this level</i>				
<b>PREDICTIONS, DATA ANALYSIS, AND INFERENCES</b>				
<i>No benchmark expectations at this level</i>				

## Standard 4: Measurement

Standard 4: Students use concepts and tools of measurement to describe and quantify the world..				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
<b>Kindergarten</b>				
<b>MEASURABLE ATTRIBUTES, MEASUREMENT SYSTEMS AND UNITS</b>				
K.4.1. Name the days of the week in order	Students name and order the days of the week with ease and no errors.	Students name and order the days of the week with minimal difficulty and with no significant errors.	Students name and order the days of the week with difficulty and with some significant errors.	Students name and order the days of the week with great difficulty and with many significant errors.
K.4.2. Tell time to the hour using digital and analog clocks	Students tell time to the hour and beyond with ease and with no errors.	Students tell time to the hour with minimal difficulty and with no significant errors.	Students tell time to the hour with difficulty or with a few significant errors.	Students tell time to the hour with great difficulty or with many significant errors.
K.4.3. Order pictures first, next, last based on time	Students order pictures based on time with no errors.	Students order pictures based on time with no significant errors.	Students order pictures based on time with a few significant errors.	Students order pictures based on time with many significant errors.
K.4.4. Compare and order objects according to their length or weight	Students compare objects and order them according to length or weight with no errors.	Students compare objects and order them according to length or weight with no significant errors.	Students compare objects and order them according to length or weight with a few significant errors.	Students compare objects and order them according to length or weight with many significant errors.
K.4.5. Identify a penny, nickel, and dime and state its value	Students identify a penny, nickel, and dime and state all of the values with ease and with no errors.	Students identify a penny, nickel, and dime and state all of the values with minimal difficulty and with no significant errors.	Students identify a penny, nickel, and/or dime and state some of the values with difficulty and with a few significant errors.	Students identify a penny, nickel, and/or dime and state the values with great difficulty and many significant errors.
<b>MEASUREMENT TOOLS, TECHNIQUES, AND FORMULAS</b>				
K.4.6. Measure length with non-standard units; e.g., paper clips, cubes	Students measure length in non-standard units with no errors.	Students measure length in non-standard units with no significant errors.	Students measure length in non-standard units with a few significant errors.	Students measure length in non-standard units with many significant errors.

## Standard 5: Algebra, Functions and Patterns

Standard 5: Students use algebraic concepts, functions, patterns, and relationships to solve problems.				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
<b>Kindergarten</b>				
<b>PATTERNS, RELATIONS, AND FUNCTIONS</b>				
K.5.1. Identify, sort, and classify objects by one attribute	Students identify, sort, and classify objects by one attribute with no errors.	Students identify, sort, and classify objects by one attribute with no significant errors.	Students identify, sort, and classify objects by one attribute with a few significant errors.	Students identify, sort, and classify objects by one attribute with many significant errors.
K.5.2. Recognize, extend, and describe simple patterns	Students recognize and extend simple patterns with no errors, and describe them in great detail.	Students recognize and extend simple patterns with no significant errors, and describe them in adequate detail.	Students recognize and extend simple patterns with a few significant errors, and describe them in some detail.	Students recognize and extend patterns with many significant errors, and describe them in minimal detail.
<b>NUMERIC AND ALGEBRAIC REPRESENTATIONS</b>				
<i>No benchmark expectations at this level</i>				
<b>MATHEMATICAL MODELING</b>				
K.5.3. Use tools and strategies (e.g., manipulatives) to model problems	Students use tools and strategies to model and solve problems with no errors.	Students use tools and strategies to model problems with no significant errors.	Students use tools and strategies to model problems with a few significant errors.	Students use tools and strategies to model problems with many significant errors.
<b>RATES OF CHANGE</b>				
<i>No benchmark expectations at this level</i>				