

# The North Dakota Standards and Benchmarks

## Content Standards – DRAFT

### Mathematics Grade 1 – Content Only

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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 EXPECTATION

#### Grade 1

##### NUMBERS, NUMBER RELATIONSHIPS, AND NUMBER SYSTEMS

- 1.1.1. Count and order numbers to 100
- 1.1.2. Identify and write numerals to 100
- 1.1.3. Count backward from 20
- 1.1.4. Count by 2's to 20, and 10's to 100
- 1.1.5. Group objects by 2's, 5's, and 10's
- 1.1.6. Identify position using ordinal numbers
- 1.1.7. Connect number words and numerals to the quantities they represent (0 - 10)
- 1.1.8. Represent and explain fractions (i.e., one half, one fourth) as part of a whole and part of a set using concrete materials/drawings
- 1.1.9. Identify place value for ones and tens
- 1.1.10. Compare two digit numbers using symbols; i.e.,  $>$ ,  $<$ ,  $=$
- 1.1.11. Use grade-appropriate terms when communicating about addition and subtraction; i.e., sum, difference

##### OPERATIONS AND THEIR PROPERTIES

- 1.1.12. Use symbols to write addition and subtraction number sentences; i.e.,  $+$ ,  $-$ ,  $=$

##### COMPUTATIONAL FLUENCY AND ESTIMATION

- 1.1.13. Recall addition facts and subtraction facts (0-10)

**Standard 1: Students understand and use basic and advanced concepts of number and number systems**

**BENCHMARK EXPECTATION**

1.1.14. Estimate the number of objects and check by counting

## 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 EXPECTATION

#### Grade 1

##### TWO- AND THREE-DIMENSIONAL SHAPES, GEOMETRIC PROPERTIES AND RELATIONSHIPS

1.2.1. Identify, compare, draw, and sort two-dimensional figures; i.e., circle, triangle, rectangle, square, oval and diamond

1.2.2. Identify three-dimensional objects; i.e., pyramid, cube, cone, cylinder, sphere

##### COORDINATE GEOMETRY

No expectations at this level

##### TRANSFORMATION AND SYMMETRY

1.2.3. Identify lines of symmetry in two-dimensional figures

##### VISUALIZATION, SPATIAL REASONING, AND GEOMETRIC MODELING

1.2.4. Arrange and describe objects in space by proximity, position, and direction; e.g., near, far, below, above, up, down, behind, in front of, next to, left or right of

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

### Standard 3: Students use data collection and analysis techniques, statistical methods, and probability to solve problems

#### BENCHMARK EXPECTATION

#### Grade 1

#### DATA COLLECTION, DISPLAY, AND INTERPRETATION

- 1.3.1. Identify and display various forms of data in their world using charts and graphs; e.g., tally charts and bar graphs
- 1.3.2. Read and interpret tally charts and picture graphs as sources of information
- 1.3.3. Sort objects by common attribute

#### PROBABILITY

No expectations at this level

#### STATISTICAL METHODS

No expectations at this level

#### PREDICTIONS, DATA ANALYSIS AND INFERENCES

No expectations at this level

## Standard 4: Measurement

### Standard 4: Students use concepts and tools of measurement to describe and quantify the world

#### BENCHMARK EXPECTATION

##### Grade 1

#### MEASURABLE ATTRIBUTES, MEASUREMENT SYSTEMS AND UNITS

- 1.4.1. Use the days of the week to show knowledge of yesterday, today, and tomorrow
- 1.4.2. Tell time to the hour and half-hour using digital and analog clocks
- 1.4.3. Estimate, and verify by measuring, length, weight, or capacity using nonstandard units
- 1.4.4. Estimate, and verify by measuring length to the nearest inch, foot, and centimeter
- 1.4.5. Identify a penny, nickel, dime, and quarter and state its value
- 1.4.6. Count a like set of pennies, nickels, or dimes to \$1.00
- 1.4.7. Demonstrate that different combinations of coins (i.e., pennies, nickels and dimes) can have the same value
- 1.4.8. Sequence events with respect to time; e.g., yesterday, today, tomorrow, seasons

#### MEASUREMENT TOOLS, TECHNIQUES, AND FORMULAS

- 1.4.9. Identify the appropriate tool used to measure length (i.e., ruler), weight (i.e., scale), time (i.e., clock, calendar) and temperature (i.e., thermometer)

## Standard 5: Algebra, Functions, and Patterns

Standard 5: Students use algebraic concepts, functions, patterns, and relationships to solve problems

### BENCHMARK EXPECTATION

#### Grade 1

##### PATTERNS, RELATIONS, AND FUNCTIONS

1.5.1. Identify, sort, and classify objects by two or more attributes

1.5.2. Recognize, extend, create and describe patterns

##### NUMERIC AND ALGEBRAIC REPRESENTATIONS

1.5.3. Demonstrate the commutative property of addition; e.g.,  $3+5=5+3$

##### MATHEMATICAL MODELING

No expectations at this level

##### RATES OF CHANGE

No expectations at this level