Bozeman Public Schools
Mathematics Curriculum
Kindergarten

Process Standards: Throughout all content standards described below, students use appropriate technology and engage in the mathematical processes of problem solving, reasoning, communication, connections, and representation.

Content Standards: By the end of Kindergarten, students understand small numbers, quantities, and simple shapes in their everyday environment. They count, compare, describe, and sort objects and develop a sense of properties and patterns.

(N): Numbers and Operations: Students demonstrate an understanding of and an ability to use numbers and operations.

N.1.0 **Students understand the relationship between numbers and quantities (●●●●●●●●●●=10):**

 N.1.1 Write and identify numerals from 1 to 20.

  N.1.2 Count by 1s, 2s, 5s, and 10s to 20.

  N.1.3 Count backwards in a small set, such as 10, 9, 8, . . . 1.

  N.1.4 Show one-to-one correspondence up to twenty.

  N.1.5 Compare two or more sets of objects (up to 10 objects in each group) and identify which set is equal to, more than, or less than the other.

    Example: Are there more circles or more triangles in the following collection?

    ◯△ △ ◯△ ◯ ◯ ◯ ◯ ◯△ △ △ ◯ ◯
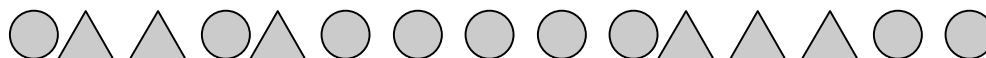
  N.1.6 Count, recognize, represent, name, and order a number of objects (up to 20).

    Example: Which numbers are missing if we are counting by ones?
    11, 12, 13, ___, ___, 16, 17, ___, ___, 20.

 N.1.7 Identify and count coins: penny, nickel, dime, quarter.

  N.1.8 Use concrete materials to represent one-half of a set.

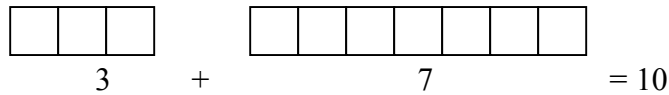   Example: 🐕 🐕 🐈 🐈 (half dogs, half cats)

N.2.0 **Students understand and describe simple additions and subtractions:**

N.2.1 Use concrete objects to determine the answers to addition and subtraction problems (for two numbers that are each less than 10).

Example: Break the cubes into two groups.

Sample answer:

$$3 \quad + \quad 7 \quad = 10$$
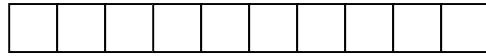
N.2.2 Construct and draw models to represent number sentences involving addition and subtraction (of two numbers that are each less than 10).

N.3.0 Students use estimation strategies in computation and problem solving that involve numbers that use the ones and tens places:

N.3.1 Recognize when an estimate is reasonable.

N.3.2 Estimate the quantity of objects and assign a number.

Example: How many marbles are in the jar?
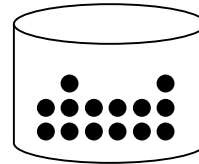
(A): Algebraic Concepts: Students use algebraic concepts, processes, and language to model and solve a variety of real-world and mathematical problems.

A.1.0 Students sort and classify objects:

A.1.1 Identify, sort, and classify objects by attribute and identify objects that do not belong to a particular group (e.g., all these balls are green, those are red).

Examples: (1) Which object does not belong?
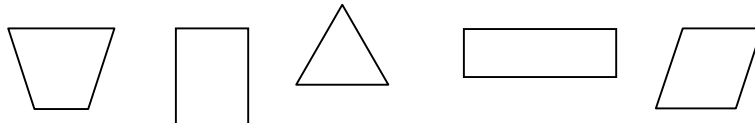
(2) How are the objects the same? How are they different?

A.1.2   Identify, describe, duplicate, create, and extend simple patterns of numbers, objects, or shapes.

Example:

RED	BLUE	RED	BLUE	RED

A.2.0   Students see and model number sentences:

A.2.1   Identify symbols (+, –, =) in number sentences such as $10 - 3 = 7$.

A.2.2   Use manipulatives (balance scale) with number sentences such as $2 + 2 = 1 + 3$.

(G): Geometry: Students demonstrate understanding of shape and an ability to use geometry.

G.1.0   Students identify and model common objects in their environment and describe the geometric features:

G.1.1   Identify and describe common geometric figures (circle, triangle, square, rectangle) and objects (cube, sphere, cylinder).

Example: Which of these is a square?
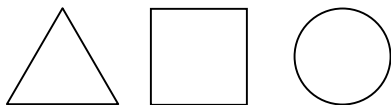
G.1.2   Compare familiar figures and objects by common attributes (e.g., position, shape, size, roundness, number of corners).

G.1.3   Use basic shapes to construct other 2D shapes, including those with line symmetry (Tangrams, attribute blocks).
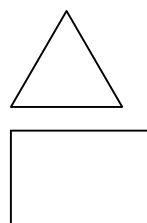
Examples: (1) Can you use some or all of the squares shown to form a bigger square?

(2) Use basic shapes to build 3 dimensional shapes (building with wooden blocks).

G.1.4   Arrange and describe objects in space by proximity, position, and direction (e.g., above, below, next to).

Examples: (1) The triangle is above the rectangle.

(2) Which animal is next to the fish?

(M): Measurement: Students demonstrate understanding of measurable attributes and an ability to use measurement processes.

M.1.0 **Students understand the concept of time and units used to measure it. They understand that objects have properties, such as length, weight, and capacity, and that comparisons may be made by referring to those properties:**

  M.1.1 Compare the length, weight, and capacity of objects by making direct comparisons with reference objects (e.g., note which object is shorter, longer, taller, lighter, heavier, or holds more.)

  Examples: Who is the tallest girl in class? Which container holds more?

  (students compare actual objects and drawings of objects)
  (1) Which pencil is longer? Which is shorter?

  M.1.2 Use a ruler, a scale, and a thermometer.

  M.1.3 Demonstrate an understanding of concepts of time (e.g., morning, afternoon, evening, today, yesterday, tomorrow, week, year), use tools that measure time (e.g., clock, calendar), and tell time to the nearest hour.

  M.1.4 Name the days of the week.

  M.1.5 Identify the time (to the nearest hour) of everyday events (e.g., lunch time is 12 noon, bedtime is 8 o'clock at night) and identify events as *before* and *after*.

(D): Data Analysis, Probability, and Statistics: Students demonstrate understanding of and an ability to use data analysis, probability, and statistics.

D.1.0 **Students collect information about objects and events in their environment:**

  D.1.1 Pose questions and collect data.

  D.1.2 Record and describe data using objects, pictures, and picture graphs.