Number, Number Sense and Operations Standard

Number and Number Systems

1.1 Use ordinal numbers to order objects; e.g., first, second, third.

1.2 Recognize and generate equivalent forms for the same number using physical models, words and number expressions; e.g., concept of ten is described by "10 blocks", full tens frame, numeral 10, 5 + 5, 15 - 5, one less than 11, my brother's age.

1.3 Read and write the numerals for numbers to 100.

1.4 Count forward to 100, count backwards from 100, and count or backward starting at any number between 1 and 100.

1.5 Use place value concepts to represent whole numbers using numerals, words, expanded notation and physical models with ones and tens. For example:
- a. Develop a system to group and count by twos, fives and tens.
- b. Identify patterns and groupings in a 100's chart and relate to place value concepts.
- c. Recognize the first digit of a two-digit number as the most important to indicate size of a number and the nearness to 10 or 100.

1.6 Identify and state the value of a penny, nickel, dime, quarter and dollar.

1.7 Determine the value of a small collection of coins (with a total value up to one dollar) using 1 or 2 different type coins, including pennies, nickels, dimes and quarters.

1.8 Show different combinations of coins that have the same value.

1.9 Represent commonly used fractions using words and physical models for halves, thirds and fourths, recognizing fractions are represented by equal size parts of a whole and of a set of objects.

Meaning of Operations

1.10 Model, represent and explain addition as combining sets (part + part = whole) and counting on. For example:
- a. Model and explain addition using physical materials in contextual situations.
- b. Draw pictures to model addition.
- c. Write number sentences to represent addition.
- d. Explain that adding two whole numbers yields a larger whole number.

Meaning of Operations, continued

1.11 Model, represent and explain subtraction as take-away and comparison. For example:
- a. Model and explain subtraction using physical materials in contextual situations.
- b. Draw pictures to model subtraction.
- c. Write number sentences to represent subtraction.
- d. Explain that subtraction of whole numbers yields an answer smaller than the original number.

1.12 Use conventional symbols to represent the operations of addition and subtraction.

1.13 Model and represent multiplication as repeated addition and rectangular arrays in contextual situations; e.g., four people will be at my party and if I want to give 3 balloons to each person, how many balloons will I need to buy?

1.14 Model and represent division as sharing equally in contextual situations; e.g., sharing cookies.

1.15 Demonstrate that equal means "the same as" using visual representations.

Computation and Estimation

1.16 Develop strategies for basic addition facts, such as:
- a. Counting all;
- b. Counting on;
- c. One more, two more;
- d. Doubles;
- e. Doubles plus or minus one;
- f. Make ten;
- g. Using tens frames;
- h. Identify property (adding zero).

1.17 Develop strategies for basic subtraction facts, such as:
- a. Relating to addition (for example, think of 7 - 3 = ? as "3 plus ? equals 7");
- b. One less, two less;
- c. All but one (for example, 8 - 7, 5 - 4);
- d. Using tens frames;
- e. Missing addends.

Measurement Standard

Measurement Units

1.1 Recognize and explain the need for fixed units and tools for measuring length and weight; e.g., rulers and balance scales.

1.2 Tell time to the hour and half hour on digital and analog (dial) timepieces.

1.3 Order a sequence of events with respect to time; e.g., summer, fall, winter and spring; morning, afternoon and night.

Use Measurement Techniques and Tools

1.4 Estimate and measure weight using non-standard units; e.g., blocks of uniform size.

1.5 Estimate and measure lengths using non-standard and standards units; i.e., centimeters, inches and feet.

Geometry and Spatial Sense Standard

Characteristics and Properties

1.1 Identify, compare and sort two-dimensional shapes, i.e., square, circle, ellipse, triangle, rectangle, rhombus, trapezoid, parallelogram, pentagon and hexagon. For example:
- a. Recognize and identify triangles and rhombuses independent of position, shape or size;
- b. Describe two-dimensional shapes using attributes such as number of sides and number of vertices (corners or angles).

1.2 Create new shapes by combining or cutting apart existing shapes.

1.3 Identify the shapes of the faces of three-dimensional objects.

Spatial Relationships

1.4 Extend the use of location words to include distance (near, far, close to) and directional words (left, right).

1.5 Copy figures and draw simple two-dimensional shapes from memory.

Patterns, Functions and Algebra Standard

Use Patterns, Relations and Functions

1.1 Sort, classify and order objects by two or more attributes, such as color and shape, and explain how objects were sorted.

1.2 Extend sequences of sound, shapes or simple number patterns, and create and record similar patterns. For example:
- a. Analyze and describe patterns with multiple attributes using numbers and shapes; e.g., AA, B, aa, b, AA, B, aa, b,…
- b. Continue repeating and growing patterns with materials, pictures and geometric items; e.g., XO, XOO, XOOO, XOOOO.

1.3 Describe orally the basic unit or general plan of a repeating or growing pattern.

Use Algebraic Representations

1.4 Solve open sentences by representing an expression in more than one way using the commutative property; e.g., 4 + 5 = 5 + 4 or the number of blue balls plus red balls is the same as the number of red balls plus blue balls (R+ B = B + R).

1.5 Describe orally and model a problem situation using words, objects or number phrase or sentence.

Data Analysis and Probability Standard

Data Collection

1.1 Identify multiple categories for sorting data.

1.2 Collect and organize data into charts using tally marks.

1.3 Display data in picture graphs with units of 1 and bar graphs with intervals of 1.

1.4 Read and interpret charts, picture graphs and bar graphs as sources of information to identify main ideas, draw conclusions and make predictions.

1.5 Construct a question that can be answered by using information from a graph.

Statistical Methods

1.6 Arrange five objects by an attribute, such as size or weight, and identify the ordinal position of each object.

1.7 Answer questions about the number of objects represented in a picture graph, bar graph or table graph; e.g., category with most, how many more in a category compared to another, how many altogether in two categories.

Probability

1.8 Describe the likelihood or simple events as possible/impossible and more likely/less likely; e.g., when using spinners or number cubes in classroom activities.

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