SAUSALITO MARIN CITY SCHOOL DISTRICT
Mathematics Standards - GRADE 2

By the end of second grade, students understand place value and number relationships as they add and subtract and use simple concepts of multiplication. They measure quantities with appropriate units. They classify and see relationships among shapes by paying attention to the elements that compose them. They collect and analyze data and verify answers.

NUMBER SENSE
1. Students understand the relationship among numbers, quantities and place value in whole numbers up to 1000.

+1.1. count, read, write whole numbers to 1,000 and identify the place value for each digit
1.2. use words, models and expanded form to represent numbers to 1,000
1.3. order and compare whole numbers up to 1,000 using the symbols <, =, >

2. Students estimate, calculate and solve problems involving addition and subtraction of two-and three-digit numbers.

+2.1. understand and use the inverse relationship between addition and subtraction (e.g., an opposite number sentence for 8 + 6 = 14 is 14 - 6 = 8) to solve problems and check solutions
+2.2. find the sum or difference of two whole numbers up to three digits long
   (1) solve real world problems using number operations
2.3. use mental arithmetic to find the sum or difference of two 2-digit numbers

+3. Students model and solve simple problems involving multiplication and division.

+3.1. use repeated addition, arrays, counting by multiples to do multiplication

+3.2. use repeated subtraction, equal sharing and forming equal groups to do division with remainders
+3.3. know the multiplication tables of 2s, 5s and 10s (to "times 10") and commit to memory

4. Students understand that fractions and decimals can refer to parts of a set and parts of a whole.

+4.1. recognize, name and compare unit fractions up to 1/12

+4.2. recognize fractions of a whole and parts of a group (e.g., 1/4 of a pie, 2/3 of 15 balls, 1/2 of ten cookies)

+4.3. know that when all fractional parts are included, such as four-fourths, the result is equal to the whole and to one

5. Students model and solve problems by representing, adding and subtracting amounts of money.

+5.1. solve problems using combinations of coins and bills

+5.2. know and use the decimal notation and the dollar and cents symbols for money

6. Students use estimation strategies in computation and problem solving that involve numbers that use the ones, tens, hundreds and thousands places.

6.1. recognize when an estimate is reasonable in measurements (e.g., closest inch)

ALGEBRA AND FUNCTIONS
1. Students model, represent and interpret number relationships to create and solve problems involving addition and subtraction.

+1.1. use the commutative and associative rules to simplify mental calculations and check results (e.g., 2 + 3 = 3 + 2 and (2 + 5) + 6 = 2 + (5 + 6))
1.2. relate problem situations and number sentences involving addition and subtraction
1.3. solve addition and subtraction problems using data from simple charts, picture graphs and number sentences

MEASUREMENT AND GEOMETRY
1. Students understand that measurement is accomplished by identifying a unit of measure, iterating (repeating) that unit and comparing it to the item to be measured.

1.1. measure the length of objects by iterating (repeating) a non-standard or standard unit
1.2. use different units to measure the same object and predict whether the measure will be greater or smaller when a different unit is used

+1.3. measure the length of an object to the nearest inch and/or centimeter

1.4. tell time to the nearest quarter hour and know time relationships (e.g., minutes in an hour, days in a month, weeks in year)
1.5. determine the duration of time intervals in hours (e.g., 11:00 a.m. to 4:00 p.m.)

+2. Students identify and describe the elements that compose common figures in the plane and common

objects in space.

+2.1. describe and classify plane and solid geometric shapes (e.g., circle, triangle, square, rectangle, sphere, pyramid, cube, rectangular prism) according to the number and shape of faces, edges and vertices

+2.2. put shapes together and take them apart to form other shapes (e.g., two congruent right triangles can form a rectangle)

STATISTICS, DATA ANALYSIS AND PROBABILITY

+1. Students collect, record, organize, display and interpret numerical data on bar graphs and other representations.

1.1. record numerical data in systematic ways, keeping track of what/who has been counted

1.2. represent the same data set in more than one way (e.g., charts with tallies, and bar graphs)

1.3. identify features of data sets (range and mode)

1.4. ask and answer simple questions related to data representations

+2. Students demonstrate an understanding of patterns and how they grow, and describe them in general ways.

2.1. recognize, describe, extend and explain how to get the next term in linear patterns (e.g., 4, 8, 12 ; the number of ears on 1 horse, 2 horses, 3 horses, 4 horses)

(1) recognize patterns and regularities in a variety of real life situations

(2) recognize, reproduce, extend and create basic geometric and numerical patterns

2.2. solve problems involving simple number patterns

MATHEMATICAL REASONING

1. Students make decisions about how to set up a problem.

1.1. decide about the approach, materials and strategies to use

1.2. use tools such as manipulatives or sketches to model problems

2. Students solve problems and justify their reasoning.

2.1. defend the reasoning used and justify the procedures selected

2.2. make precise calculations and check the validity of the results from the context of the problem

3. Students note connections between one problem and another.