MATHEMATICS
GRADE TWO

STANDARDS

Nevada Grades K-12 Content Standards

1.0 Students will accurately calculate and use estimation techniques, number relationships, operation rules, and algorithms; they will determine the reasonableness of answers and the accuracy of solutions to solve problems, communicate, reason, and make connections within and beyond the field of mathematics.

2.0 Students will use various algebraic methods to analyze, illustrate, extend, and create numerous representations (words, numbers, tables, and graphs) of patterns, functions, and algebraic relations as modeled in practical situations to solve problems, communicate, reason, and make connections within and beyond the field of mathematics.

3.0 Students will use appropriate tools and techniques of measurement to determine, estimate, record, and verify direct and indirect measurements to solve problems, communicate, reason, and make connections within and beyond the field of mathematics.

4.0 Students will identify, represent, verify, and apply spatial relationships and geometric properties to solve problems, communicate, and make connections within and beyond the field of mathematics.

5.0 Students will collect, organize, display, interpret, and analyze data to determine statistical relationships and probability projections to solve problems, communicate, reason, and make connections within and beyond the field of mathematics.

Nevada Grades K-12 Process Standards

A Students will develop their ability to **solve problems** by engaging in developmentally appropriate opportunities where there is a need to use various approaches to investigate and understand mathematical concepts.

B Students will develop their ability to **communicate mathematically** by solving problems where there is a need to obtain information from the real world through reading, listening, and observing.

C Students will develop their ability to **reason mathematically** by solving problems where there is a need to investigate mathematical ideas and construct their own learning in all content areas.

D Students will develop the ability to make **mathematical connections** by solving problems where there is a need to view mathematics as an integrated whole.

ESSENTIAL CONCEPTS, SKILLS, AND EXPERIENCES

NUMBERS, NUMBER SENSE, AND COMPUTATION

It is expected that students will:

(2)1.1 identify, use, and model place value positions of 1's, 10's,100's, and 1000's [NS/PS 1.2.1]

(2)1.2 identify the value of a given digit in the 1's, 10's, and 100's place [NS 1.2.1]

(2)1.3 identify equal parts of a whole [NS 1.2.2]

(2)1.4 identify and model the unit fractions 1/2 and 1/4 as equal parts of a whole or sets of objects [NS/PS 1.2.2]

(2)1.5 read, write, compare, and order numbers from 0 - 999 [NS 1.2.3]

(2)1.6 identify ordinal positions first to twentieth [NS/PS 1.2.3]

(2)1.7 read and write number words to 20 [NS/PS 1.2.3]

(2)1.8 create, compare, and describe sets of objects and numbers from 0 - 999 as greater than, less than, or equal to (>, <, =) [NS 1.2.3]

(2)1.9 identify odd and even numbers

(2)1.10 use number patterns to skip count [NS/PS 1.2.4]

(2)1.11 identify and model basic addition facts (sums to 18) and the corresponding subtraction facts [NS/PS 1.2.5]

(2)1.12 immediately recall basic addition facts (sums to 18) and the corresponding subtraction facts [NS/PS 1.2.5]

(2)1.13 estimate the number of objects in a set to 20 and verify by counting [NS/PS 1.2.6]

(2)1.14 use estimation and mental computation in appropriate situations to solve problems

(2)1.15 add and subtract one- and two-digit numbers without regrouping [NS/PS 1.2.7]

(2)1.16 generate and solve one-step addition and subtraction problems based on practical situations [NS/PS 1.2.8]

(2)1.17 model addition and subtraction in a variety of ways using pictorial representations and symbols to illustrate subtraction of sets, comparison of sets, and missing addends [NS 1.2.8]

(2)1.18 reinforce the use of mathematical vocabulary and symbols to describe addition, subtraction, and equality [NS 1.2.8]

(2)1.19 add and subtract money amounts

(2)1.20 use a variety of appropriate strategies to compute and solve problems with whole numbers

(2)1.21 describe and explain sequence of steps in addition and subtraction algorithms

PATTERNS, FUNCTIONS, AND ALGEBRA

It is expected that students will:

(2)2.1 recognize, describe, extend, and create repeating and increasing patterns using symbols, objects, and manipulatives [NS/PS 2.2.1]

(2)2.2 use patterns and their extensions to solve problems [NS/PS 2.2.1]

(2)2.3 model, explain, and identify missing operations and missing numbers in open number sentences involving number facts in addition and subtraction [NS 2.2.2]

(2)2.4 complete number sentences with the appropriate words and symbols (+, -, =) [NS/PS 2.2.3]

(2)2.5 represent mathematical situations using numbers, symbols, and words [NS/PS 2.2.3]

MEASUREMENT

It is expected that students will:

(2)3.1 estimate and measure length, weight, and temperature of objects using a standard or non-standard unit of measure

(2)3.2 compare, order, and describe objects by various measurable attributes for length, weight, and temperature [NS/PS 3.2.1]

(2)3.3 compare objects to standard whole units to find objects that are greater than, less than, and/or equal to a given unit [NS/PS 3.2.2]

(2)3.4 determine the value of any given set of coins [NS/PS 3.2.4]

(2)3.5 read, write, and use money notations

(2)3.6 use decimals to show money amounts [NS 3.2.4]

(2)3.7 recognize equivalent combinations of coins [NS 3.2.4]

(2)3.8 read time to nearest half-hour and quarter-hour [NS/PS 3.2.6]

(2)3.9 use elapsed time in one hour increments, beginning on the hour, to determine start, end, and elapsed time [NS 3.2.6]

(2)3.10 recognize that there are 12 months in 1 year, 7 days in 1 week, and 24 hours in 1 day [NS 3.2.6]

SPATIAL RELATIONSHIPS, GEOMETRY, AND LOGIC

It is expected that students will:

(2)4.1 describe, sketch, and compare two-dimensional shapes (circles, triangles, rectangles, including squares) regardless of orientation [NS/PS 4.2.1]

(2)4.2 compare the size (larger and smaller) of similar two-dimensional figures such as circles and triangles

(2)4.3 identify congruent and similar shapes (circles, triangles, and rectangles including squares) [NS/PS 4.2.2]

(2)4.4 identify figures with symmetry as they appear in the environment [NS/PS 4.2.3]

(2)4.5 create two-dimensional designs that contain a line of symmetry

(2)4.6 identify, name, sort, and describe, two- and three-dimensional geometric figures and objects including circle/sphere and square/cube [NS/PS 4.2.4]

(2)4.7 sort and classify objects by two or more attributes [NS 4.2.9]

(2)4.8 compare and contrast attributes of objects, shapes, and numbers

DATA ANALYSIS

It is expected that students will:

(2)5.1 read, organize, tally, display, and interpret data in charts, tables, and graphs to solve problems

(2)5.2 collect, record, and classify data in response to questions posed by teacher and/or students [NS/PS 5.2.1]

(2)5.3 use tables, pictographs, and bar graphs to represent data [NS 5.2.1]

(2)5.4 use informal concepts of probability (certain and impossible) to make predictions about future events [NS 5.2.5]

PROBLEM SOLVING

It is expected that students will:

(2)A.1 select, modify, develop, and apply strategies to solve a variety of mathematical and practical problems and to investigate and understand mathematical concepts [NS/PS A.K-2]

(2)A.2 apply previous experience and knowledge to new problem solving situations [NS/PS A.K-2]

(2)A.3 formulate their own problems; use various approaches to investigate and solve problems [NS/PS A.K-2]

(2)A.4 explain and verify results with respect to the original problem [NS/PS A.K-2]

(2)A.5 try more than one strategy when the first strategy proves to be unproductive [NS A.K-2]

(2)A.6 use technology, including calculators, to develop mathematical concepts (e.g., for skip counting and pattern exploration) [NS A.K-2]

MATHEMATICAL COMMUNICATION

It is expected that students will:

(2)B.1 discuss and exchange ideas about mathematics as a part of learning [NS B.K-2]

(2)B.2 use inquiry techniques (e.g., discussion, questioning, research, data gathering) to solve mathematical problems [NS B.K-2]

(2)B.3 use physical materials, models, pictures, or writing to represent and communicate mathematical ideas [NS/PS B.K-2]

(2)B.4 explain and justify thinking about mathematical ideas and solutions [NS/PS B.K-2]

(2)B.5 use everyday language, both orally and in writing, to explain thinking about strategies and solutions to mathematical problems [NS B.K-2]

(2)B.6 express mathematical ideas and use them to define, compare, and solve problems orally and in writing

(2)B.7 use mathematical notation to communicate and explain mathematical situations [NS B.K-2]

(2)B.8 read a variety of fiction and non-fiction texts to learn about mathematics [NS B.K-2]

MATHEMATICAL REASONING

It is expected that students will:

(2)C.1 justify and explain the solutions to problems using physical models [NS C.K-2]

(2)C.2 use patterns and relationships to analyze mathematical situations; draw logical conclusions about mathematical problems [NS/PS C.K-2]

(2)C.3 ask questions to reflect on, clarify, and extend their thinking [NS C.K-2]

(2)C.4 determine relevant, irrelevant, and/or sufficient information to solve mathematical problems [NS C.K-2]

(2)C.5 discuss the steps used to solve a mathematical problem [NS C.K-2]

MATHEMATICAL CONNECTIONS

It is expected that students will:

(2)D.1 link new concepts to prior knowledge [NS D.K-2]

(2)D.2 integrate mathematics with other disciplines [NS D.K-2]

(2)D.3 apply mathematical thinking and modeling to solve problems that arise in other disciplines, such as rhythm in music and motion in science [NS D.K-2]

(2)D.4 identify, explain, and use mathematics in everyday life [NS/PS D.K-2]