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**Florida's Sunshine State Standards Correlations of the UNDERSTANDING
NUMERATION (NUM) Programs
and the UNDERSTANDING MATHEMATICS (MAT) Programs
By Neufeld Learning Systems
Kindergarten
August 2003**

Notes: a. The **Understanding Numeration** software utilizes the following levels of development:

Level	Upper Range of Number
A	10
B	20
C	100
D	1000

b. Reference to Understanding Numeration ▷ NUM

Reference to Understanding Mathematics ▷ MAT

A. Number Sense, Concepts, and Operations – MA.A.1.1.1.

Standard 1:

1. The student understands the different ways numbers are represented and used in the real world.

Benchmark:

1. The student associates verbal names, written word names, and standard numerals with the whole numbers less than 1000.

Kindergarten

1. The student: counts up to 10 or more objects using verbal names and one-to-one correspondence;
2. reads and writes numerals to 10 or more;
3. counts orally to 100 or more;
4. knows that cardinal numbers indicate quantity and ordinal numbers indicate position.

NUM/Counting/Reading and Printing Numerals A/Introduction: Counting 1 to 10

NUM/Counting/Reading and Printing Numerals A/Things in a Square (1 to 10)

NUM/Counting/Reading and Printing Numerals A/Building a Numberline (1 to 10)

NUM/Counting/Reading and Printing Numerals A/Building a Vertical Numberline

NUM/Counting/Reading and Printing Numerals C/Counting 0 to 100 on a Grid

NUM/Counting/1 to 1 Correspondence of # to Objects A/Keep Track by Marking

NUM/Comparing and Ordering/Use Ordinal Numbers A/The First Ladybug

MA.A.1.1.2

Benchmark:

1. The student understands the relative size of whole numbers between 0 and 1000.

Kindergarten

1. The student: uses numbers and pictures to describe how many objects are in a set (to 10 or more);
2. uses language such as *before* or *after* to describe relative position in a sequence of whole numbers on a number line up to 10 or more (for example, 4 is before 5, 5 is after 4);
3. compares two or more sets (up to 10 objects in each set) and identifies which set is equal to, more than, or less than the other.

NUM/Counting/Reading and Printing Numerals A/Things in a Square (1 to 10)

NUM/Counting/Reading and Printing Numerals A/Building a Numberline (1 to 10)

NUM/Counting/Reading and Printing Numerals A/Building a Vertical Numberline

NUM/Comparing and Ordering/Introduce .. “greater than” “less than” A/Greater Than

NUM/Comparing and Ordering/Introduce .. “greater than” “less than” A/Less Than

NUM/Comparing and Ordering/Introduce .. “greater than” “less than” A/Greater Than, Less Than

NUM/Comparing and Ordering/Introduce .. “greater than” “less than” A/Greater Than, Less Than, Equal To

MA.A.1.1.3

Benchmark:

1. The student uses objects to represent whole numbers or commonly used fractions and relates these numbers to real-world situations.

Kindergarten

1. The student: uses sets of concrete materials to represent quantities, to 10 or more, given in verbal or written form;
2. uses concrete materials to represent fractional parts of a whole (one half, one fourth).

NUM/Counting/Reading and Printing Numerals A/Building a Numberline (1 to 10)

NUM/Counting/Reading and Printing Numerals A/Building a Vertical Numberline

NUM/Counting/Introduce Fractions .. equal parts B/Two Equal Parts; Four Equal Parts

NUM/Counting/Introduce Fractions .. parts of a whole B/One Half; One Quarter

MA.A.1.1.4

Benchmark:

1. The student understands that whole numbers can be represented in a variety of equivalent forms.

Kindergarten

1. The student: represents equivalent forms of the same number, up to 10 or more, through the use of concrete materials (for example, using unifix cubes, 5 can be

represented as 1+4, 2+3, 0+5; five pennies equal one nickel and ten pennies equal one dime).

NUM/Operations/Demonstrate Addition Facts .. A/Ways to Make 5,6,7,8,9,10

NUM/Counting/Counting Using Money B/Pennies, Nickels, Dimes

Standard 2:

1. The student understands numbers systems.

MA.A.2.1.1

Benchmark:

1. The student understands and applies the concepts of counting (by 2s, 3s, 5s, 10s, 25s, 50s), grouping, and place value with whole numbers between 0 and 100.

Kindergarten

1. The student, with teacher direction: counts orally to 100 or more by 2s, 5s, and 10s using a hundred chart or concrete materials;
2. uses concrete materials, pictures, and numerals to show the concept of numbers to 10 or more;
3. counts backward from ten to one.

NUM/Counting/Skip Counting & Patterns C/Skip Counting to 100; Skip Count by 2's to 100; Skip Count by 5's to 100

NUM/Counting/Counting Backwards A/Counting Backwards from 10 to 1

MA.A.2.1.2

Benchmark:

1. The student uses number patterns and the relationships among counting, grouping, and place value strategies to demonstrate an understanding of the whole number system.

Kindergarten

1. The student: groups objects in sets of 2 or more;
2. knows the relationships between larger numbers and smaller numbers.

NUM/Place Value/Break Numbers into Groups B/Making Groups

NUM/Comparing and Ordering/Introduce .. "greater than" "less than" A/Greater Than

NUM/Comparing and Ordering/Introduce .. "greater than" "less than" A/Less Than

NUM/Comparing and Ordering/Introduce .. "greater than" "less than" A/Greater Than, Less Than

NUM/Comparing and Ordering/Introduce .. "greater than" "less than" A/Greater Than, Less Than, Equal To

Standard 3:

1. The student understands the effects of operations on numbers and the relationships among these operations, selects appropriate operations, and computes for problem solving.

MA.A.3.1.1

Benchmark:

1. The student understands and explains the effects of addition and subtraction on whole numbers, including the inverse (opposite) relationship of the two operations.

Kindergarten

1. The student: demonstrates and describes the effect of putting together and taking apart sets of objects (for example, 3 cubes and 4 cubes is 7 cubes);
2. uses a number line to demonstrate how to count up and count back from a given number.

NUM/Operations/Introduce Addition .. Concretely .. “in all” & “together”

A/Additions Using Gumballs #1; Addition Using Beans #1

NUM/Operations/Introduce Addition .. Concretely .. “in all” & “together”

A/Addition Using Gumballs #2; Additions Using Beans #2

NUM/Counting/Counting Backwards A/Counting Up & Down .. 1 to 10

MA.A.3.1.2

Benchmark:

1. The student selects the appropriate operation to solve specific problems involving addition and subtraction of whole numbers.

Kindergarten

1. The student: creates and acts out number stories using objects;
2. knows strategies for solving number problems.

NUM/Counting/Associating Numbers in a Real-world Context A/ The Street Scene

MA.A.3.1.3

Benchmark:

1. The student adds and subtracts whole numbers to solve real-world problems using appropriate methods of computing, such as objects, mental mathematics, paper and pencil, calculator.

Kindergarten

1. The student: demonstrates an awareness of addition and subtraction in everyday activities (using concrete objects, models, drawings, role playing).

NUM/Operations/Introduce Addition .. Concretely .. “in all” & “together”

A/Additions Using Gumballs #1; Addition Using Beans #1

NUM/Operations/Introduce Addition .. Concretely .. “in all” & “together”

A/Addition Using Gumballs #2; Additions Using Beans #2

NUM/Operations/Introduce the Symbolism .. # + # = # A/Additions Using Gumballs #3; Addition Using Beans #3

NUM/Operations/Introduce the words .. “plus” and “equals” A/Addition Using Gumball #4; Addition Using Beans #4

NUM/Operations/Demonstrate Addition Facts .. Making 5,6,7,8,9,10 A/All Sections

NUM/Operations/Introduce Subtraction Concretely .. “take away” A/Introduction to Subtraction #1, 2

NUM/Operations/Introduce Subtractions Symbolism .. # + # = # A/Introduction to Subtraction #3, 4; Introduce Vertical Subtraction; Subtraction Sentences

Standard 4:

1. The student uses estimation in problem solving and computation.

MA.A.4.1.1

Benchmark:

1. The student provides and justifies estimates for real-world quantities.

Kindergarten

1. The student: estimates and verifies by counting sets that have more, fewer, or the same number of objects (for example, using a reference set of objects, comparing cards with different numbers of dots, estimating whether sets are more or less than a given number such as five).

NUM/Counting/Estimating the Number of Objects & Reasonableness B/Estimating & Counting

Standard 5.

1. The student understands and applies theories related to numbers.

MA.A.5.1.1

Benchmark:

1. The student classifies and models numbers as even or odd.

Kindergarten

1. The student: uses concrete objects to explore odd and even numbers (up to 10).

NUM/Counting/Skip Counting & Patterns C/Next by 2's

B. Measurement

Standard 1.

1. The student measures quantities in the real world and uses the measures to solve problems.

MA.B.1.1.1

Benchmark:

1. The student uses and describes basic measurement concepts including length, weight, digital and analog time, temperature, and capacity.

Kindergarten

1. The student: knows how to communicate measurement concepts;
2. measures length of objects and distance using nonstandard concrete materials;
3. weighs objects to explore concepts of heavier and lighter;
4. describes concepts of time (for example, before or after, day or night);
5. describes concepts of temperature (for example, hot or cold);
6. compares and demonstrates the concept of capacity (for example, full or empty).

NUM/Comparing and Ordering/Understand Measurement of Time B/The Clock – An Introduction

MA.B.1.1.2**Benchmark:**

1. The student uses standard customary and metric (centimeter, inch) and nonstandard units, such as links or blocks, in measuring real quantities.

Kindergarten

1. The student: uses nonstandard objects, such as cubes, marbles, paper clips, and pencils, to measure classroom objects (for example, table length is 10 crayons or four pencils).

Standard 2.

1. The student: compares, contrasts, and converts within systems of measurement (both standard and non-standard, metric and customary).

MA.B.2.1.1**Benchmark:**

1. The student uses direct (measured) and indirect (not measured) comparisons to order objects according to some measurable characteristics (length, weight).

Kindergarten

1. The student: uses direct (side-by-side) comparisons to sort and order objects by their lengths;
2. uses indirect comparisons to compare lengths of objects that cannot be physically compared (side-by-side) (for example, compares height of counters in classroom and cafeteria by using string or in reference to child's own body).
3. compares and orders classroom objects by their weights, determining which objects weigh more, less, or about the same.

MA.B.2.1.2**Benchmark:**

1. The student understands the need for a uniform unit of measure to communicate in real-world situations.

Kindergarten

1. uses uniform nonstandard units to measure common classroom objects.

Standard 3.

1. The student estimates measurements in real-world problem situations.

MA.B.3.1.1**Benchmark:**

1. The student using a variety of strategies, estimates lengths, widths, time intervals, and money and compares them to actual measurements.

Kindergarten

1. The student: uses nonstandard units to estimate, and verifies by measuring, the length and width of common classroom objects;
2. estimates and measures the time of day as day or night; morning, afternoon, or evening; and yesterday, today, or tomorrow;

3. knows which of two daily activities takes more or less time;
4. knows and compares the values of a penny (1 cent), nickel (5 cents), and dime (10 cents).

NUM/Comparing and Ordering/ Understand Measurement of Time B/The Clock – An Introduction

NUM/Counting/Counting Using Money B/Pennies, Nickels, Dimes

Standard 4.

1. The student selects and uses appropriate units and instruments for measurement to achieve the degree of precision and accuracy required in real-world situations.

MA.B.4.1.1

Benchmark:

1. The student selects and uses an object to serve as a unit of measure, such as a paper clip, eraser, or marble.

Kindergarten

1. The student: uses nonstandard units appropriately (for example, pencil, cubes, scoops of rice).

MA.B.4.1.2

Benchmark:

1. selects and uses appropriate instruments, such as scales, rulers, clocks, and technology to measure within customary or metric systems.

Kindergarten

1. The student: knows various measuring tools for measuring length, weight, or capacity;
2. knows ways to measure time, including calendar, days, weeks, months, and days of week.

C. Algebraic Thinking

Standard 1.

1. The student describes, draws, identifies, and analyzes two- and three-dimensional shapes.

MA.C.1.1.1

Benchmark:

1. The student understands and describes the characteristics of basic two- and three-dimensional shapes.

Kindergarten

1. The student knows two-dimensional shapes (for example, circles, squares, rectangles, triangles), describing similarities and differences;
2. sorts three-dimensional objects by varied attributes (for example, identifying which can roll, stack, or slide);
3. sorts three-dimensional objects according to geometric shapes (for example, cubes, spheres, cylinders, cones).

Standard 2.

1. The student visualizes and illustrates ways in which shapes can be combined, subdivided, and changed.

MA.C.2.1.1

Benchmark:

1. The student understands basic concepts of spatial relationships, symmetry, and reflections.

Kindergarten

1. The student recognizes symmetry in the environment;
2. uses concrete materials to make symmetrical figures (for example, paper fold, paint blot);
3. matches objects to outlines of their shapes;
4. knows spatial relationships (for example, in or out; above or below; over or under; top, bottom, or middle);
5. identifies left and right hand.

MA.C.2.1.2

Benchmark:

1. The student uses objects to perform geometric transformations, including flips, slides, and turns.

Kindergarten

1. The student: follows directions to move or place an object in relation to another (for example, next to, to the right of);
2. uses concrete objects to explore slides and turns.

Standard 3.

1. The student uses coordinate geometry to locate objects in both two and three dimensions and to describe objects algebraically.

MA.C.3.1.1

Benchmark:

1. The student uses real-life experiences and physical materials to describe, classify, compare, and sort geometric figures, including squares, rectangles, triangles, circles, cubes, rectangular solids, spheres, pyramids, cylinders, and prisms, according to the number of faces, edges, bases, and corners.

Kindergarten

1. The student: recognizes, compares, and sorts real-world objects or models of solids;
2. knows the attributes of circles, squares, triangles, and rectangles (for example, edges, corners, curves).

MA.C.3.1.2

Benchmark:

1. The student plots and identifies positive whole numbers on a number line.

Kindergarten

1. The student: locates known and unknown numbers on a number line from 0 to 10 or more (for example, finding what number you are on if you move 2 numbers forward or 3 numbers back).

NUM/Comparing and Ordering/Locate Numbers on a Numberline A/Find One Missing Number; Find Two Missing Numbers

D. Algebraic Thinking***Standard 1.***

1. The student describes, analyzes, and generalizes a wide variety of patterns, relations, and functions.

MA.D.1.1.1**Benchmark:**

1. The student describes a wide variety of classification schemes and patterns related to physical characteristics and sensory attributes, such as rhythm, sound, shapes, colors, numbers, similar objects, similar events.

Kindergarten

1. The student: identifies simple patterns of sounds, physical movements, and concrete objects;
2. sorts and classifies objects by color, shape, size, or kind;
3. identifies objects that do not belong to a particular group (for example, blue lid in set of red lids).

MA.D.1.1.2**Benchmark:**

1. The student recognizes, extends, generalizes, and creates a wide variety of patterns and relationships using symbols and objects.

Kindergarten

1. The student predicts and extends existing patterns using concrete materials;
2. uses concrete objects to create a pattern;
3. transfers patterns from one medium to another (for example, actions, sounds, or concrete objects).

Standard 2.

1. The student uses expressions, equations, inequalities, graphs, and formulas to represent and interpret situations.

MA.D.2.1.1**Benchmark:**

1. The student understands that geometric symbols (j , D) can be used to represent unknown quantities in expressions, equations, and inequalities.

Kindergarten

1. The student: knows that symbols can be used to represent missing or unknown quantities (for example, fill in the missing number in 5, 6, \square , 8).

NUM/Comparing and Ordering/Locate Numbers on a Numberline A/Find One Missing Number; Find Two Missing Numbers

MA.D.2.1.2

Benchmark:

1. The student uses informal methods to solve real world problems requiring simple equations that contain one variable.

Kindergarten

1. The student: uses informal methods, such as pictures, concrete materials, and role playing, to solve real world problems;
2. uses one-to-one matching to determine if two groups are equal.

NUM/Problem Solving

E. Data Analysis and Probability

Standard 1.

1. The student understands and uses the tools of data analysis for managing information.

MA.E.1.1.1

Benchmark:

1. The student displays solutions to problems by generating, collecting, organizing, and analyzing data using simple graphs and charts.

Kindergarten

1. The student: knows how to display answers to simple questions involving two categories or choices using concrete materials or pictures on a graph or chart (for example, in a class, number of boys and girls, students with buttons and students with no buttons);
2. interprets data exhibited in concrete or pictorial graphs.

MA.E.1.1.2

Benchmark:

1. The student displays data in a simple model to use the concepts of range, median, and mode.

Kindergarten

1. The student: with teacher direction, uses concrete materials, pictures, or graphs to show range and mode (for example, on a human, block, or picture graph showing number of brother and sisters, range is from zero to highest number of siblings; mode is number of siblings most common in class).

MA.E.1.1.3

Benchmark:

1. The student analyzes real-world data by surveying a sample space and predicting the generalization onto a larger population through the use of appropriate technology, including calculators and computers.

Kindergarten

1. The student: collects, displays data, and makes generalizations (for example, determines number of pockets on 5 children; predicts how many 10 students or the whole class will have).

Standard 2.

1. The student identifies patterns and makes predictions from an orderly display of data using concepts of probability and statistics.

MA.E.2.1.1**Benchmark:**

1. The student understands basic concepts of chance and probability.

Kindergarten

1. The student knows the likelihood of a given situation (for example, Could a lion come visit you? Will we have school tomorrow? Will it rain today?);
2. participates in games or activities dependent upon chance (for example, using spinners or number cubes).

MA.E.2.1.2**Benchmark:**

1. The student predicts which simple event is more likely, equally likely, or less likely to occur.

Kindergarten

1. The student: knows if a given event is more likely, equally likely, or less likely to occur (for example, chicken nuggets or pizza for lunch in the cafeteria).

Standard 3.

1. The student uses statistical methods to make inferences and valid arguments about real-world situations.

MA.E.3.1.1**Benchmark:**

1. The student designs a simple experiment to answer a class question, collects appropriate information, and interprets the results using graphical displays of information, such as line graphs, pictographs, and charts.

Kindergarten

1. The student: displays the answer to a simple class question with two categories using concrete materials, a pictograph, or chart (for example, hot or cold; wings or no wings);
2. describes data displayed concretely or pictorially.

MA.E.3.1.2**Benchmark:**

1. The student decides what information is appropriate and how data can be collected, displayed, and interpreted to answer relevant questions.

Kindergarten

1. The student: determines through class discussions questions for a simple two-choice survey so that the collected information will answer the questions;
2. knows an appropriate method to display the information.