

CORRELATION
of
the 10 UNDERSTANDING MATH PLUS PROGRAMS
with
ALABAMA COURSE OF STUDY : MATHEMATICS
Grade 3

Note: a. The Understanding Math PLUS series of programs consist of 10 programs written for Kindergarten to 10th Grade.

The 10 programs are:

- Understanding Fractions Understanding Whole Numbers and Integers
- Understanding Probability Understanding Percent
- Understanding Exponents Understanding Equations
- Understanding Algebra Understanding Graphing
- Understanding Numeration
- Understanding Measurement and Geometry

Note: b. The Understanding Numeration software for K to 3 is set up so that the teacher selects items in the following order:

Concept .. from 5 concepts .. Counting, Comparing & Ordering, Place Value, Operations and Problem Solving.

Skill .. chosen from the list of specific learning expectations

Level .. indicates the levels of development for Kindergarten to 3rd grade.

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

Lesson .. 250 lessons are sequenced to build understanding of concepts.

A detailed Lesson Synopsis on the website www.neufeldmath.com to assist the teacher by stating the lesson contents but also by giving lesson suggestions.

Worksheet .. off computer worksheets are selected from the CD by a code.

Note: c. The remaining 9 Understanding Math programs for 4th to 10th grade are set up so that they can be used in a variety of teaching and learning environments ranging from a teacher centered approach with 1 computer to a student centered lab approach. The lessons can also be used in remediation, tutorial, intervention, resource, fast-tracking.

Each topic has:

..an interactive concept introduction, usually with a variety of graphic approaches.

..a number of particular examples

..practice questions with random questions but particular feedback

..a topic test with random questions and tracking

..off computer worksheets selected from the website .. www.neufeldmath.com

1.) Demonstrate number sense by comparing, ordering, and expanding whole numbers through 9999.

<p align="center"><i>ALABAMA COURSE OF STUDY : MATHEMATICS</i> Standard</p>	<p align="center">Understanding Math PLUS and/or Understanding Numeration PLUS Lessons</p>
<ul style="list-style-type: none"> Identifying the place value of any digit within a four-digit number 	<p><u>Understanding Numeration PLUS</u> <u>PLACE VALUE</u> Skill – Identify Place Value Patterns (to 1000) Level C/D 3 Digit numbers – Different Ways worksheet #2 Expanded Notation Worksheets #1, #2</p>
<ul style="list-style-type: none"> Writing a four-digit number in words and locating it on a number line Determining the value of a number written in expanded notation to the ten-thousands place Example: $3,000 + 400 + 20 + 1 = 3,421$ 	<p><u>Understanding Math PLUS</u> <u>Understanding Whole Numbers and Integers</u> Topic 1. An Introduction to Whole Numbers CAN/US Seeing the Number To Tens Examples 1, 2 To Hundreds Examples 1, 2 To Thousands Examples 1, 2, 3 Expanded Notation To 999 Examples 1, 2 To 9999 Examples 1, 2 Write as Numerals Examples 1, 2 The Number Line</p>
<ul style="list-style-type: none"> Rounding whole numbers to the nearest ten and hundred and money values to the nearest dollar 	

2.) Solve addition and subtraction problems, including word problems, involving two- and three-digit numbers with and without regrouping.

<p align="center"><i>ALABAMA COURSE OF STUDY : MATHEMATICS</i> Standard</p>	<p align="center">Understanding Math PLUS and/or Understanding Numeration PLUS Lessons</p>
<ul style="list-style-type: none"> • Estimating sums and differences by using compatible numbers, front-end estimation, and rounding 	
<ul style="list-style-type: none"> • Demonstrating computational fluency in addition and subtraction 	<p><u>Understanding Numeration PLUS OPERATIONS</u></p> <p>Skill – Add 2 Digit Numbers...Concretely Level C Addition without Regrouping Worksheets #1, #2 Addition with Regrouping Worksheets #1, #2</p> <p>Skill – Add 2 Digit Numbers ...Abstractly Level C Addition without Regrouping Worksheets #1, #2 Addition with Regrouping Worksheets #1, #2</p> <p>Skill – Add 3 Digit Numbers...Abstractly Level D Addition without Regrouping Worksheets #1, #2 Addition with Regrouping Worksheets #1, #2, #3</p> <p>Skill – Add 3 Digit Numbers...Concretely Level D Addition without Regrouping Worksheets #1, #2 Addition with Regrouping Worksheets #1, #2 Addition with Regrouping – Any Column Worksheets #1, #2</p> <p>Skill – Subtract 2 Digit Numbers...Concretely Level C Subtraction without Regrouping : worksheets #1, #2 Subtraction with Regrouping: worksheets #1, #2</p> <p>Skill – Subtract 2 Digit Numbers...Abstractly Level C Subtraction without Regrouping : worksheets #1, #2 Subtraction with Regrouping: worksheets #1, #2</p> <p>Skill – Subtract 3 Digit Numbers...Concretely Level D Subtraction Without Regrouping: worksheet #1, #2</p>

	<p>Subtraction With Regrouping #1: worksheet #1, #2 Subtraction With Regrouping #2: worksheet #1, #2 Subtraction With Regrouping #3: worksheet #1, #2</p> <p>Skill – Subtract 3 Digit Numbers...Abstractly Level D</p> <p>Subtraction Without Regrouping: worksheet #1, #2 Subtraction With Regrouping #1: worksheet #1, #2 Subtraction With Regrouping #2: worksheet #1, #2 Subtraction With Regrouping #3: worksheet #1, #2 Subtraction With Regrouping #4: worksheet #1, #2</p>
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3.) Multiply whole numbers with and without regrouping using single-digit multipliers.

<p style="text-align: center;"><i>ALABAMA COURSE OF STUDY : MATHEMATICS</i> Standard</p>	<p style="text-align: center;">Understanding Math PLUS and/or Understanding Numeration PLUS Lessons</p>
<ul style="list-style-type: none"> • Applying concepts of multiplication through the use of manipulatives, number stories, arrays, repeated addition, or problem situations • Applying basic multiplication facts through 9x9 by using manipulatives, solving problems, and writing number stories 	<p><u>Understanding Numeration PLUS</u> <u>OPERATIONS</u></p> <p>Skill – Introduce Multiplication Concretely Level C</p> <p style="padding-left: 20px;">Grouping Eggs into Bowls: Worksheets #1, #2 Grouping Chairs into Rows: Worksheets #1, #2 Eggs in Bowls – Introduce X: Worksheets #1, #2 Chairs and Rows – Introduce X: Worksheets #1, #2 Multiplication – Repeated Addition</p> <p>Skill – Introduce Multiplication Facts...2,3,4,5 Level C</p> <p style="padding-left: 20px;">Multiplication : Groups of 2,3,4,5</p> <p>Skill – Introduce Multiplication by 1 and by 0 Level C</p> <p style="padding-left: 20px;">Multiplication : Groups of 1 Multiplication : Groups of 0</p> <p>Skill – Introduce Multiplication Facts...6,7,8,9 Level D</p> <p style="padding-left: 20px;">Multiplication : Groups of 6,7,8,9</p>
<ul style="list-style-type: none"> • Recognizing properties of multiplication 	<p><u>Understanding Numeration PLUS</u> <u>OPERATIONS</u></p> <p>Skill – Patterns in Multiplication Level C</p> <p style="padding-left: 20px;">X Table – Groups of 2,3,4,5 X Table – Groups of 5 to 10 X Table – Groups of 6,7,8,9,10</p> <p>Skill – Patterns in Multiplication Level D</p> <p style="padding-left: 20px;">X Table – Groups of 6,7,8,9,10</p>

4.) Divide whole numbers using two-digit dividends and one-digit divisors.

<i>ALABAMA COURSE OF STUDY : MATHEMATICS</i> Standard	Understanding Math PLUS and/or Understanding Numeration PLUS Lessons
<ul style="list-style-type: none"> Recognizing division as repeated subtraction 	<p><u>Understanding Numeration PLUS OPERATIONS</u> Skill – Introduction to Division Level C Equal Groups of Eggs: Worksheets #1, #2 Sharing Oranges Equally: Worksheets #1, #2 Division Introduction – Eggs Worksheets #1, #2 Division Introduction – Oranges Worksheets #1, #2 Division - How Many Groups? Worksheets #1, #2</p> <p>Skill – Introduce Division Facts...2,3,4,5 Level C Division Groups of 2,3,4,5</p> <p>Skill – Introduce Division Facts...6,7,8,9 Level D Division Groups of 6,7,8,9</p>

5.) Model equivalent fractions with concrete objects or pictorial representations.

<i>ALABAMA COURSE OF STUDY : MATHEMATICS</i> Standard	Understanding Math PLUS and/or Understanding Numeration PLUS Lessons
	<p><u>Understanding Numeration PLUS COMPARING AND ORDERING</u> Skill – Compare Fractions Level D Compare Fractions</p>

6.) Use coins to make change up to \$1.00.

<i>ALABAMA COURSE OF STUDY : MATHEMATICS</i> Standard	Understanding Math PLUS and/or Understanding Numeration PLUS Lessons
<ul style="list-style-type: none"> Determining monetary values of sets of unlike coins and bills up to \$5.00 	<p><u>Understanding Numeration PLUS</u> <u>COUNTING</u> Skill – Counting Using Money Level B “ Pennies, Nickels, Dimes”: worksheet #1, #2 “ Coins – Count by 10s, 5s, and 1s” : worksheet #1, #2</p> <p>Skill – Counting Using Money Level C Quarters: worksheet #1, #2</p> <p>Level D Dollars: worksheet #1, #2</p>

7.) Complete a given numeric or geometric pattern.

<i>ALABAMA COURSE OF STUDY : MATHEMATICS</i> Standard	Understanding Math PLUS and/or Understanding Numeration PLUS Lessons
	<p><u>Understanding Numeration PLUS</u> <u>COUNTING</u> Skill – Skip Counting and Patterns Level C Patterns in Rows: worksheet #1, #2 Skip Counting to 100 Skip Count by 2s to 100 : worksheet #1, #2 Next by 5s Next by 2s : worksheet #1, #2</p>

8.) Identify geometric representations for points, lines, perpendicular lines, parallel lines, angles, and rays.

<i>ALABAMA COURSE OF STUDY : MATHEMATICS</i> Standard	Understanding Math PLUS and/or Understanding Numeration PLUS Lessons
<ul style="list-style-type: none"> Recognizing real-life examples of points, lines, perpendicular lines, and parallel lines 	
<ul style="list-style-type: none"> Drawing points, lines, and perpendicular lines 	

9.) Specify locations on a coordinate grid by using horizontal and vertical movements.

<i>ALABAMA COURSE OF STUDY : MATHEMATICS</i> Standard	Understanding Math PLUS and/or Understanding Numeration PLUS Lessons
	<p><u>Understanding Math PLUS</u> <u>Understanding Graphing</u> Topic 3. Points on a Grid In This Topic Josh’s Neighborhood Concept Number Houses Grids on Maps Ordered Pairs Axis Quadrants and Cartesian Plane Find a Point</p>

10.) Measure length in metric units.

<i>ALABAMA COURSE OF STUDY : MATHEMATICS</i> Standard	Understanding Math PLUS and/or Understanding Numeration PLUS Lessons
	<p><u>Understanding Math PLUS</u> <u>Understanding Measurement and Geometry</u> Topic 1. An Introduction to Measurement Metric and U.S.A Standard Measurement Systems Searching for the Standard Unit Related Units from Metric Prefixes Metric Prefixes at Work The Ruler</p>

11.) Determine elapsed time to the day with calendars and to the hour with a clock.

ALABAMA COURSE OF STUDY : MATHEMATICS Standard	Understanding Math PLUS and/or Understanding Numeration PLUS Lessons
<ul style="list-style-type: none"> Calculating elapsed time to the minute within the same hour Applying vocabulary associated with time using <i>a.m.</i>, <i>p.m.</i>, <i>noon</i>, or <i>midnight</i>. 	<p>Understanding Numeration PLUS COMPARING AND ORDERING Skill – Describe Elapsed Time...Hours, 5 Minutes Level C Elapsed Time in Hours #1, #2 Level D Elapsed Time – 5 Minutes #1, #2 Time Goes By – Analog, Digital Skill – Describe Elapsed Time...Minutes Level D Elapsed Time – Minutes #1, #2</p>

12.) Recognize data as either categorical or numerical.

ALABAMA COURSE OF STUDY : MATHEMATICS Standard	Understanding Math PLUS and/or Understanding Numeration PLUS Lessons
<p>Examples: categorical-gender, race, languages spoken, genre; numerical-age, height, weight</p> <ul style="list-style-type: none"> Comparing related data sets 	<p>Understanding Numeration PLUS OPERATIONS Skill – Given Graphs...Perform Operations Level D Operations with Tally Charts: Worksheets #1, #2 Operations with Pictographs: Worksheets #1, #2 Operations with Bar Graphs: Worksheets #1, #2</p>

13.) Determine the likelihood of different outcomes in a simple experiment.

ALABAMA COURSE OF STUDY : MATHEMATICS Standard	Understanding Math PLUS and/or Understanding Numeration PLUS Lessons
<p>Example: determining that the spinner is least likely to land on red in this diagram</p>	<p>Understanding Math PLUS Understanding Probability Topic 1. Introduction to Probability The Language of Chance Impossible to Certain Activities 1, 2 Probability Lines Lines 1, 2</p>

