

CORRELATION
of
the Understanding Numeration PLUS & Understanding Math PLUS programs
with
Atlantic Canada
Primary Math Outcomes
November 2006

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

The 10 programs are:

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| 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

GCO A Students will demonstrate number sense and apply number theory concepts.

Expectation or Standard	Understanding Math PLUS and/or Understanding Numeration PLUS Lessons
<p>A1 sort sets on the basis of number</p>	<p><u>Understanding Numeration PLUS</u> <u>COUNTING</u> Skill – Reading and Printing Numerals Level A Introduction : Counting 1 to 10: worksheet #1, #2 Things in a Square #1 Join up to 10 Dots</p> <p>Skill – Associating Numbers in a Real World Context Level A The Street Scene: Worksheets #1, #2 The Zoo</p>
<p>A2 count to determine the number in a group</p>	<p><u>Understanding Numeration PLUS</u> <u>COUNTING</u> Skill – 1 to 1 Correspondence of # to Objects Level A Keep Track by Marking: Worksheets #1, #2</p> <p>Skill – Count on from a Given Number Level A Show/Cover Up/Count On Cover Up/Over On</p>
<p>A3 create sets of a given number</p>	
<p>A4 explore a variety of physical representations of numbers</p>	<p><u>Understanding Numeration PLUS</u> <u>COUNTING</u> Skill – Estimating the Number of Objects and Reasonableness Level A Estimate the Handful Dot Flash Cards</p> <p>Skill – Associating Numbers in a Real World Context Level A The Street Scene: Worksheets #1, #2 The Zoo</p>

<p>A5 count in a variety of ways</p>	<p><u>Understanding Numeration PLUS</u> <u>COUNTING</u> Skill – Reading and Printing Numerals Level A Introduction : Counting 1 to 10: worksheet #1, #2 Things in a Square #1 Join up to 10 Dots Building a Number Line Building a Vertical Number Line</p>
<p>A6 Interpret ordinal numbers</p>	<p><u>Understanding Numeration PLUS</u> <u>COMPARING AND ORDERING</u> Skill – Use Ordinal Numbers Level A/B Ordering Ladybugs The Steps</p>
<p>A7 recognize the meaning of halves when used in context</p>	<p><u>Understanding Numeration PLUS</u> <u>COUNTING</u> Skill – Introduce Fractions: Equal Parts Level B Two Equal Parts</p>
<p>A8 use symbols to represent numbers</p>	<p><u>Understanding Numeration PLUS</u> <u>COUNTING</u> Skill – 1 to 1 Correspondence of # to Objects Level A Keep Track by Marking: Worksheets #1, #2</p>
<p>A9 determine which group has more, which has less/fewer, or whether groups are equivalent</p>	<p><u>Understanding Numeration PLUS</u> <u>COMPARING AND ORDERING</u> Skill – Introduce “ Greater Than” & “ Less Than” Level A Greater Than Less Than “Greater Than, Less Than” #1 “Greater Than, Less Than, Equal To”</p>

GCO B Students will demonstrate operation sense and apply operation principles and procedures in both numeric and algebraic situations.

Expectation or Standard	Understanding Math PLUS and/or Understanding Numeration PLUS Lessons
<p>B1 count the results when small groups are combined</p>	<p><u>Understanding Numeration PLUS OPERATIONS</u> Skill – Introduce Addition...concretely... “in all” & “together” Level A Addition Using Gumballs #1: Worksheets #1, #2 Addition Using Beans #1: Worksheets #1, #2 Add Number of Sides of Shapes #1: Worksheets #1, #2</p> <p>Skill – Introduce Addition Concretely... “and” Level A Addition Using Gumballs #2: Worksheets #1, #2 Addition Using Beans #2: Worksheets #1, #2 Add Number of Sides of Shapes #2: Worksheets #1, #2</p>
<p>B2 count the results when small groups are separated</p>	<p><u>Understanding Numeration PLUS OPERATIONS</u> Skill – Introduce Subtraction Concretely... “take away” Level A Introduction to Subtractions #1: Worksheets #1, #2 Introduction to Subtractions #2: Worksheets #1, #2 Introduction to Subtractions #3: Worksheets #1, #2 Introduction to Subtractions #4: Worksheets #1, #2</p>
<p>B3 determine how many more one group has than another</p>	<p><u>Understanding Numeration PLUS OPERATIONS</u> Skill – Introduce Addition...concretely... “in all” & “together” Level A Addition Using Gumballs #1: Worksheets #1, #2 Addition Using Beans #1: Worksheets #1, #2 Add Number of Sides of Shapes #1: Worksheets #1, #2</p>

GCO C Students will explore, recognize, represent, and apply patterns and relationships, both informally and formally.

Expectation or Standard	Understanding Math PLUS and/or Understanding Numeration PLUS Lessons
<p>C1 copy and extend patterns including those involving number, shape, size, and colour</p>	<p><u>Understanding Numeration PLUS</u> <u>COUNTING</u> Skill – Skip Counting and Patterns Level C Patterns in Rows: worksheet #1, #2</p> <p><u>OPERATIONS</u> Skill – Demonstrate Addition Facts: Patterns Level A Bar Machine worksheet #1, #2 Decomposition Tree worksheet #1, #2</p> <p><u>COUNTING</u> Skill – Recognize and Count Two-Dimensional Figures Level B/C Counting 2-D Figures #1, #2</p> <p><u>Understanding Math PLUS</u> <u>Understanding Algebra</u> Topic 3. Patterns, Patterns, Patterns Introduction...Math is Patterns Geometric Patterns Examples 1,2,3,4,5,6,7,8</p>
<p>C2 copy patterns based on measurement attributes</p>	
<p>C3 create patterns</p>	
<p>C4 represent the same pattern in multiple ways</p>	<p><u>Understanding Numeration PLUS</u> <u>COUNTING</u> Skill – Skip Counting and Patterns Level C Patterns in Rows: worksheet #1, #2</p>

	<p><u>OPERATIONS</u> Skill – Demonstrate Addition Facts: Patterns Level A Bar Machine worksheet #1, #2 Decomposition Tree worksheet #1, #2</p>
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GCO D Students will demonstrate an understanding of and apply concepts and skills associated with measurement.

Expectation or Standard	Understanding Math PLUS and/or Understanding Numeration PLUS Lessons
D1 compare and order objects based on length, capacity, and mass	
D2 sequence events	
D3 sort items based on measurement attributes	<p><u>Understanding Numeration PLUS</u> <u>COMPARING AND ORDERING</u> Skill – Reading and Comparing Temperatures Level C Fahrenheit and Celsius Temperatures: Worksheets #1, #2 Compare Temperatures in a Day: Worksheets #1, #2</p>

GCO E Students will demonstrate spatial sense and apply geometric concepts, properties, and relationships.

Expectation or Standard	Understanding Math PLUS and/or Understanding Numeration PLUS Lessons
E1 develop spatial sense, including position-in-space and the language associated with it	
E2 develop spatial sense, including eye-motor coordination	
E3 sort and build with 2-D and 3-D shapes	<p><u>Understanding Numeration PLUS</u> <u>COUNTING</u> Skill – Recognize and Count Solids Level B/C</p>
E4	

pattern with 2-D and 3-D shapes	Counting Solids #1 Counting Solids #2 <u>COUNTING</u> Skill – Recognize and Count Two-Dimensional Figures Level B/C Counting 2-D Figures #1, #2
E5 recognize, name, describe, and compare 3-D shapes (including sphere, cylinder, cone, and cube) and 2-D shapes (including square, triangle, circle, and rectangle)	<u>Understanding Numeration PLUS</u> <u>COUNTING</u> Skill – Recognize and Count Solids Level B/C Counting Solids #1 Counting Solids #2 <u>COUNTING</u> Skill – Recognize and Count Two-Dimensional Figures Level B/C Counting 2-D Figures #1, #2
E6 build 2-D shapes using structured materials	
E7 subdivide and change shapes	
E8 make transformations of figures and shapes	<u>Understanding Math PLUS</u> <u>Understanding Graphing</u> Topic 4. Transformations What is a Transformation? Introduction to Common Transformations Translations - An Introduction Slide #1, #2, #3, #4
E9 recognize familiar shapes occurring in the environment	

GCO F Students will solve problems involving the collection, display, and analysis of data.

Expectation or Standard	Understanding Math PLUS and/or Understanding Numeration PLUS Lessons
<p>F1 collect and organize data about issues of personal interest</p> <p>F2 form and interpret "people" graphs</p> <p>F3 interpret and create real and picture graphs</p>	<p><u>Understanding Numeration PLUS</u> OPERATIONS Skill – Given Graphs...Perform Operations Level D</p> <p>Operations with Tally Charts: Worksheets #1, #2 Operations with Pictographs: Worksheets #1, #2</p>