

CORRELATION
of
the 10 UNDERSTANDING MATH PLUS PROGRAMS
with
Louisiana Mathematics Framework
Grades 9-12

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

Benchmarks 9-12: ALGEBRA

Students in Grades 9 -12 use manipulatives, models, graphs, tables, technology, number sense, and estimation as they extend their investigations of problems involving the concepts and application of algebra, as a result what they know and are capable to do includes:

Standard	Understanding Math PLUS Program and Lesson
<p>A-1-H demonstrating the ability to translate real-world situations (e.g., distance versus time relationships, population growth, growth functions for diseases, growth of minimum wage, auto insurance tables) into algebraic expressions, equations, and inequalities and vice versa;</p>	
<p>A-2-H recognizing the relationship between operations involving real numbers and operations involving algebraic expressions;</p>	<p>MAT+ <u>Understanding Algebra</u> Topic 5. Adding Expressions Adding Expressions with X and Y Tiles Examples 1, 2, 3 Adding Expressions with X-Squared Tiles Examples 1, 2, 3 Adding Expressions without Tiles Examples 1, 2 Practice Questions with Tiles Practice Questions without Tiles Topic Test</p> <p>Topic 6. Subtracting Expressions Subtracting Expressions with X and Y Tiles Concept Examples 1, 2 Subtracting Expressions with X-Squared Tiles Examples 1, 2 Subtracting Expressions without Tiles Practice Questions with Tiles Practice Questions without Tiles Topic Test</p> <p>Topic 7. Multiplying Expressions Our Problem Recall Tile Concepts</p>

Multiplying Monomials
Like Terms
With Tiles
Without Tiles
Multiplying Monomials and Polynomials
With Tiles... Examples 1, 2, 3, 4
Without Tiles
Multiplying Binomials
With Tiles... Examples 1, 2
Without Tiles
Pattern
Examples... True or False
Examples 1, 2, 3
Practice Questions
Topic Test

Topic 8. Factoring Expressions

Common Factoring
With Tiles
Examples 1, 2 – Methods 1, 2
Without Tiles
GCF
Examples 1, 2
Factoring Trinomials
With Tiles - Examples 1, 2
The Pattern
Without Tiles – Examples 1, 2, 3, 4
Difference of Squares
Examples 1, 2, 3, 4
Factoring by Grouping – Concept
Examples 1, 2, 3, 4, 5
Summary
Examples 1, 2, 3, 4
Practice Questions
Topic Test

Topic 9. Dividing Expressions

Dividing a Monomial by a Monomial
Examples 1, 2, 3, 4
Dividing a Polynomial by a Monomial
Concept
Examples 1, 2, 3
Summary
Dividing a Polynomial by a Binomial

	<p>Examples 1... Methods 1 Examples 1... Methods 2... Long Division Examples 2 Examples 3... Methods 1 Examples 3... Methods 2... Long Division Examples 4... Methods 1 Examples 4... Methods 2... Long Division Combination Questions Examples 1, 2, 3, 4 Practice Questions Topic Test</p>
<p>A-3-H using tables and graphs as tools to interpret algebraic expressions, equations, and inequalities;</p> <p>A-4-H solving algebraic equations and inequalities using a variety of techniques with the appropriate tools (e.g., hand-held manipulatives, graphing calculator, symbolic manipulator, or pencil and paper).</p>	<p>MAT+ <u>Understanding Equations</u></p> <p>Topic 5. Problem Solving Solve a Linear System by Comparison Examples 1, 2 – Intersecting Lines Examples 3, 4 – Intersecting Lines Involving Fractions Example 5 – Parallel Lines Example 6 – Coincidental Lines Solve Problems Using Linear Systems Examples 1, 2: Beginning of Question, Draw Graph Practice Questions Topic Test</p> <p>Topic 6. Solving Linear Systems The Meaning of a Linear System The Meaning of Solving a Linear System Solve a Linear System by Graphing Examples 1, 2 – Intersecting Lines Examples 3, 4 – Intersecting Lines Involving Fractions Example 5 – Parallel Lines Example 6 – Coincidental Lines Solve a Linear System by Substitution Examples 1, 2 – Intersecting Lines Examples 3, 4 – Intersecting Lines Involving Fractions Example 5 – Parallel Lines Example 6 – Coincidental Lines Solve a Linear System by Elimination Examples 1, 2 – Intersecting Lines Examples 3, 4 – Intersecting Lines Involving Fractions Example 5 – Parallel Lines Example 6 – Coincidental Lines</p>

	<p>Topic 7. Solving Inequalities Solving Inequalities Examples 1, 2, 3, 4, 5, 6 Solving Compound Inequalities Examples 1, 2 Graphing Linear Inequalities in Two Variables Concepts 1, 2 Examples 1, 2, 3 Solving Systems of Linear Inequalities by Graphing Examples 1, 2 Linear Programming What is it? A Fund Raising Example The Objective Function Practice Questions Topic Test</p>
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Benchmarks 9-12: MEASUREMENT

Students in Grades 9-12 use number sense, estimation, appropriate manipulatives, tools, and technology as they extend their investigations of problems involving measurement. As a result, what they know and are able to do includes:

Standard	Understanding Math PLUS Program and Lesson
M-1-H selecting and using appropriate units, techniques, and tools to measure quantities in order to achieve specified degrees of precision, accuracy, and error (or tolerance) of measurements;	
M-2-H demonstrating an intuitive sense of measurement (e.g., estimating and determining reasonableness of results as related to area, volume, mass, rate, and distance);	<p>MAT+ <u>Understanding Measurement and Geometry</u> Topic 2. Perimeter and Area of Polygons Amount of Surface The Driveway... An Introduction to Area Area – Estimation Area of a Rectangle Examples 1, 2 Area of a Parallelogram Examples 1, 2 Area of a Triangle Examples 1, 2 Relationship – Area and Perimeter The Information The Graph Given Area and Perimeter – Create Shape</p>

	<p>Example 1 Example 2 Example 3 Example 4 Problems Section Length of Fence Area of a Wall The Tablecloth Practice Questions Topic Test</p> <p>Topic 4. Solids... Volume and Surface Area Surface Area of a Solid Surface Area of a Pyramid Surface Area of a Cylinder Surface Area of a Sphere Volume of a Solid Volume of a Prism: Examples 1, 2 Volume of a Cylinder Volume of a Pyramid Volume of a Cone Volume of a Sphere Summary Practice Questions Topic Test</p>
<p>M-3-H estimating, computing, and applying physical measurement using suitable units (e.g., calculate perimeter and area of plane figures, surface area and volume of solids presented in real-world situations);</p>	<p>MAT+ <u>Understanding Measurement and Geometry</u> Topic 8. Projective Geometry An Introduction Toothpicks on Isometric Dot Paper Toothpick to Cube The Views Using Isometric Grid Paper Orthographic Projections: Introduction The Cube Tool Introduction Tutorial Play with Tool Given Solid – Build it Examples 1, 2, 3, 4, 5, 6 Given Views – Build it Examples 1, 2, 3, 4, 5, 6 Given Volume – Build it Examples 1, 2, 3, 4, 5, 6</p>

	Given Area – Build it Examples 1, 2, 3, 4, 5, 6 Practice Questions
M-4-H demonstrating the concept of measurement as it applies to real-world experiences.	MAT+ <u>Understanding Measurement and Geometry</u> <i>All Sections</i>