

**CORRELATION
of
the 10 UNDERSTANDING MATH PLUS PROGRAMS
with
OHIO ACADEMIC CONTENT STANDARDS**

Grade 8

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

Content Standards:

Geometry and Spatial Sense

Standard

1. Make and test conjectures about characteristics and properties (e.g., sides, angles, symmetry) of two-dimensional figures and three-dimensional objects.
2. Recognize the angles formed and the relationship between the angles when two lines intersect and when parallel lines are cut by a transversal.
3. Use proportions in several forms to solve problems involving similar figures (part-to-part, part-to-whole, corresponding sides between figures).
4. Represent and analyze shapes using coordinate geometry; e.g., given three vertices and the type of quadrilateral, find the coordinates of the fourth vertex.
5. Draw the results of translations, reflections, rotations and dilations of objects in the coordinate plane, and determine properties that remain fixed; e.g., lengths of sides remain the same under translations.

Understanding Math PLUS Program and Lesson

MAT+ Understanding Measurement and Geometry

Topic 6: Angles and Polygons

- In This Topic
- Parallel Lines
- Example with Parallel Lines
- Examples 1,2
- Angles in Triangles
- Exploration
- An Explanation
- Exterior Angles – Example
- Angles in Polygons
- Methods 1,2
- Exterior Angles in a Polygon

MAT+ Understanding Percent

Topic 4: Ratios and Proportions

- Proportions
- Example 1
- Example 2- Lemonade
- Example 3 – Marbles
- Example 4 – Trout
- Example 5 – Tree Height
- Example 6 – Map
- Example 7 – Scale Drawing

MAT+ Understanding Graphing

Topic 3: Points on a Grid

- Shapes
- Battleship

MAT+ Understanding Graphing

Topic 4: Transformations

- Translations
- Object to Image
- We Say, We Write
- Translation Mapping Rule
- Examples
- Reflections
- Object to Image
- We Say, We Write
- Reflection Mapping Rule
- Examples
- Rotations
- Object to Image
- We Say, We Write
- Rotation Mapping Rule
- Examples
- Dilatations
- Object to Image
- We Say, We Write
- Dilatation Mapping Rule
- Examples
- Practice Questions; Topic Test

6. Draw nets for a variety of prisms, pyramids, cylinders and cones. MAT+ Understanding Measurement and Geometry