

**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:

Data Analysis and Probability

Standard

1. Use, create and interpret scatterplots and other types of graphs as appropriate.
2. Evaluate different graphical representations of the same data to determine which is the most appropriate representation for an identified purpose; e.g., line graph for change over time, circle graph for part-to-whole comparison, scatterplot for relationship between two variants.
3. Differentiate between discrete and continuous data and appropriate ways to represent each.
4. Compare two sets of data using measures of center (mean, mode, median) and measures of spread (range, quartiles, interquartile range, percentiles).
5. Explain the mean's sensitivity to extremes and its use in comparison with the median and mode.
6. Make conjectures about possible relationship in a scatterplot and approximate line of best fit.
7. Identify different ways of selecting samples, such as survey response, random sample, representative sample and convenience sample.
8. Describe how the relative size of a sample compared to the target population affects the validity of predictions.
9. Construct convincing arguments based on analysis of data and interpretation of graphs.
10. Calculate the number of possible outcomes for a situation, recognizing and accounting for when items may occur more than once or when order is important.

Understanding Math PLUS Program and Lesson

MAT+ Understanding Probability

Topic 2: Statistics

Presenting Data

Stem-and-Leaf Diagram

Examples 1 & 2

Bar Graph

Examples 1 & 2

Histogram

Examples 1 & 2

Line Graph

Examples 1 & 2

Circle or Pie Graph

Examples 1 & 2

Scatter Plot

Examples 1 & 2

MAT+ Understanding Graphing

Topic 1: Reading and Sketching Graphs

Discrete Data

Continuous Data

MAT+ Understanding Probability

Topic 2: Statistics

Measures of Central Tendency

Introduction

The Mean Average

The Median Average

The Mode

Summary

Another Example

Adding Data Points

MAT+ Understanding Probability

Topic 2: Statistics

Scatter Plot

Examples 1 & 2

MAT+ Understanding Probability

Topic 2: Statistics

Collecting Data

Throw a Die

Throw 2 Dice

Voting

Primary Data – Gathering Methods

Secondary Data – Gathering Methods

11. Demonstrate an understanding that the probability of either of two disjoint events occurring can be found by adding the probabilities for each and that the probability of one independent event following another can be found by multiplying the probabilities.

MAT+ Understanding Probability

Topic 7: Independent Events

In This Topic

What are They?

Examples 1,2

Probability – Examples 1,2,3

Patterns and Summary – Examples 1,2,3

Practice Questions; Topic Test