

Correlation of the Understanding Math 2008© Programs With the Everyday Math for Grade 6

The Understanding Math 2008© series of programs consists of the following nine programs written for fourth to tenth grade:

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

The programs are designed for use in a variety of teaching and learning environments ranging from a teacher-centered approach with one computer to a student-centered lab approach. The lessons may also be used in remediation, tutorials, intervention, resource, and fast tracking.

Each program contains several sections with several topics. Every topic has the following:

- 1) an interactive concept introduction, usually with a variety of graphic approaches;
- 2) a number of particular examples;
- 3) practice questions with random questions, but specific feedback;
- 4) a topic test with random questions and tracking;
- 5) on-line worksheets selected from our website (www.neufeldmath.com).

Concepts included in the content standards that are ***not included*** in the current Understanding Math 2008© programs are noted in ***bold italics*** in the Understanding Math 2008© Program/Sections/Lessons column.

Finally, the third column in the chart is for you to note the lessons in your curriculum that cover each concept for lesson planning purposes.

Lesson Guide:

Unit One: pages two to four	Unit Seven: pages twenty-four to twenty-five
Unit Two: pages five to eight	Unit Eight: pages twenty-six to twenty-eight
Unit Three: pages nine to ten	Unit Nine: pages twenty-eight to thirty-one
Unit Four: pages eleven to fifteen	Unit Ten: page thirty-one
Unit Five: pages sixteen to eighteen	
Unit Six: pages eighteen to twenty-three	

GRADE 5



Unit 1. Collection, Display, and Interpretation of Data

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>1.1 Introduction to the <i>Student Reference Book</i> To use the <i>Student Reference Book</i> to find information and solve problems.</p>	NOT INCLUDED	
<p>1.2 Line Plots To create and describe line plots; and to use data landmarks.</p>	<p>Understanding Graphing Section 2: Statistics Line Graph #1, Line Graph #2 Line Graph Example 1... Life Expectancy Example 2... Software Profits</p>	
<p>1.3 Stem-and-Leaf Plots To use stem-and-leaf plots for organizing and analyzing data.</p>	<p>Understanding Graphing Section 2: Statistics Presenting Data Stem and Leaf Diagram</p>	
<p>1.4 Median and Mean To calculate and compare the median and mean of a data set.</p> <p>1.5 Playing <i>Landmark Shark</i> To find the range, median, mode, and mean for sets of numbers.</p>	<p>Understanding Graphing Section 2: Statistics Measures of Central Tendency Introduction The Mean Average The Median Average The Mode Summary Another Example</p>	
<p>1.6 Broken-Line Graphs To create, read, and interpret broken-line graphs.</p>	NOT INCLUDED	
<p>1.7 Bar Graphs To create, read and interpret bar graphs.</p>	<p>Understanding Graphing Section 2: Statistics Presenting Data Bar Graph Example 1... Energy Example 2... Lengths of Rivers</p>	
<p>1.8 Step Graphs To create, read, and interpret step graphs.</p>		



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>1.9 The Percent Circle and Circle Graphs To review the Percent Circle; and to interpret circle graphs.</p>	<p>Understanding Graphing Section 2: Statistics Presenting Data Circle or Pie Graphs Example 1... The Radio Station Example 2... Health Survey</p>	
<p>1.10 Using a Graph to Investigate Perimeter and Area To find the perimeter and area of a rectangle; and to describe relationships between perimeter and area.</p>	<p>Understanding Measurement and Geometry Section 2: Perimeter and Area of Polygons Relationship – Area and Perimeter The Information The Graph Length and Perimeter Length and Area Given Area and Perimeter – Create Shape Example 1, Example 2 , Example 3, Example 4 Problem Section Length of Fence Area of Wall The Tablecloth Practice Questions: 17 questions (randomly generated)</p>	
<p>1.11 Persuasive Data and Graphs To analyze data displays and explain ways in which data can be presented to misrepresent or mislead.</p>	<p>Understanding Graphing Section 1: Reading and Sketching Graphs In This Topic Graphs Without a Scale Concept... Age and Weight Example 1... Height and Weight Example 2... Errors and Years Example 3... Pushups and Situps Example 4... Nelia's Bike Ride Example 5... Temperature and Time Example 6... Melissa Eating Popcorn (situations randomly generated) Example 7... Glasses of Water Example 8... Bottles of Water Example 9... Bottles of Water... Matching Example 10... Age and Height Example 11... The Bathtub #1 Example 12... The Bathtub #2 Example 13... The Hot Tub</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>1.11 Persuasive Data and Graphs To analyze data displays and explain ways in which data can be presented to misrepresent or mislead. CONTINUED</p>	<p>Understanding Graphing Section 1: Reading and Sketching Graphs Graphs With a Scale Concept... Distance and Time Example 1... Wins in Soccer Example 2... Books and Days Example 3... The Travel Log Example 4... Winning in Baseball Example 5... Cost and Distance Example 6... Ivan's Ride to the Party Example 7... The Cyclists Example 8... Baseball (situations are randomly generated) Example 9... The Beach Example 10... Rate Example 11... Villeneuve Example 12... Volume and Time Example 13... The River Problem Example 14... Angelo's Walk Discrete Data Continuous Data Extrapolation</p>	
<p>1.12 Samples and Surveys To determine whether a sample is random or biased; and to compare and analyze recall surveys.</p>	NOT INCLUDED	
<p>1.13 Progress Check 1 To assess students' progress on mathematical content through the end of Unit 1.</p>		



Unit 2. Operations with Whole Numbers and Decimals

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>2.1 Reading and Writing Large Numbers To read and write large numbers in standard, expanded, and number-and-word notations.</p> <p>2.2 Reading and Writing Small Numbers To read and write small numbers in standard and expanded notations.</p>	<p>Understanding Whole Numbers and Integers Section 1: The Meaning of Whole Numbers Expanded Notation To 999 Example 1, Example 2 To 9999 Example 1, Example 2 Represent Numbers in Many Ways Example 1, Example 2, Example 3, Example 4, Example 5 Comparing Large Numbers Example 1, Example 2, Example 3, Example 4 Ordering Large Numbers Example 1, Example 2, Example 3, Example 4</p>	
	<p>Understanding Fractions Section 5: Introduction to Decimals Rounding Decimals Examples 1, 2, 3, 4, 5</p> <p>Section 14: Addition and Subtraction of Decimals Method 1 -Partial Sums Examples 1, 2 -With Grids Examples 3 through 6 -Without Grids Method 2 -Columns Examples 1, 2 -With Grids Examples 3 through 6 -Without Grids Method 3 -Right to Left Examples 1, 2 -With Grids Examples 3 through 6 -Without Grids Subtracting Decimals: Click and Drag - 5 questions (randomly generated) Tenths – The Pencil Examples 1 through 5 Hundredths – The Field Examples 1 through 4 Method 1 – Right to Left</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>2.3 Addition and Subtraction of Decimals To add, subtract, and round decimal numbers. CONTINUED</p>	<p>Section 14: Addition and Subtraction of Decimals Examples 1, 2 -With Grids Examples 3 through 6 -Without Grids Method 2 – Trade First Examples 1, 2 -With Grids Examples 3 through 6 -Without Grids Method 3 – Add Up Examples 1 through 4 -With Grids Examples 5 through 8-Without Grids Method 4 – Add Up to Zero Examples 1, 2 Decimals Around Us Length in Metric Units Tools Examples 1 through 5 Pencils Examples 1 through 5 Money Examples 1 through 5 Track Meet Examples 1 through 5 School Supplies Practice Questions: 10 questions (randomly generated) Topic Test: 10 questions (randomly generated)</p>	
<p>2.4 Multiplying by Powers of 10 To develop and practice strategies for multiplying by powers of 10.</p>	<p>Understanding Whole Numbers and Integers Section 3: Multiplying and Dividing Whole Numbers The 10 x 10 Multiplication Table User Picks Computer Picks Patterns in Multiplication Patterns in Multiplication by 10</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>2.5 Multiplication of Decimals: Part 1 To develop an estimation strategy for multiplying decimals.</p> <p>2.6 Multiplication of Decimals: Part 2 To develop strategies for multiplying decimals.</p>	<p>Understanding Whole Numbers and Integers Section 15: Multiplication and Division of Decimals Multiply by Partial Products - Area Examples 1, 2, 3 with Blocks Examples 4, 5, 6 without Blocks Questions 1, 2, 3 Distributive Method Examples 1, 2, 3 Questions 1, 2, 3 Standard Method Examples 1, 2, 3 Questions 1, 2, 3</p>	
<p>2.7 Division of Whole Numbers To estimate quotients; and to use paper-and-pencil division algorithm to divide whole numbers.</p>	<p>Understanding Whole Numbers and Integers Section 3: Multiplying and Dividing Whole Numbers Division by a Single Digit Divisor Fair Sharing Example 1 – With Blocks Example 2 – Without Blocks Questions 1 through 6 Divide by a Partial Quotient Partial Quotient – Examples 1, 2, 3, 4</p>	
<p>2.8 Division of Decimals To estimate and calculate quotients of whole- and decimal-number dividends; and to extend the partial-quotients division algorithm to include decimal-number quotients.</p>	<p>Understanding Whole Numbers and Integers Section 15: Multiplication and Division of Decimals Preliminaries to Division Graphic Example Multiplication Table Summary for Decimals Partial Quotients Examples 1, 2, 3, 4 Fair Sharing – Long Division Examples 1, 2 Questions 1, 2, 3, 4</p>	



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<p>2.9 Scientific Notation for Large and Small Numbers To use scientific notation; and to convert between scientific and standard notations.</p>	<p>Understanding Exponents Section 4: Scientific Notation Scientific Notation for Large Numbers Introduction Chart The Rule The Steps Scientific Notation for Small Numbers Introduction Chart Steps Examples 1. Number Question 2. Park Question 3. Sun Question 4. Kitchen Question</p>	
<p>2.10 Exponential Notation and the Power Key on a Calculator To use a calculator to convert between scientific and standard notations.</p>	<p>Understanding Exponents Section 2: Exponents in Formulas The Power Key An Introduction Power with a Positive Base Power with a Negative Base</p>	
<p>2.11 Progress Check 2 To assess students' progress on mathematical content through the end of Unit 2.</p>		



Unit 3. Variables, Formulas, and Graphs

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>3.1 Using Variables to Describe Number Patterns To describe general number patterns in words; and to write special cases for general number patterns.</p>	<p>Understanding Algebra Section 3: Patterns, Patterns, Patterns Introduction... Math is Patterns Geometric Patterns Examples 1 through 9 Number Patterns Examples 1 through 6 Number and Geometric Patterns Examples 1, 2</p>	
<p>3.2 General Patterns (Two Variables) To write special cases having two variables; and to describe general patterns using two variables.</p>	<p>Understanding Algebra Section 3: Patterns, Patterns, Patterns Patterns to Formulas Examples 1 through 5</p>	
<p>3.3 Algebraic Expressions To write and evaluate algebraic expressions.</p> <p>3.4 Formulas To examine how formulas are derived; and to evaluate formulas.</p>	<p>Understanding Algebra Section 4: Patterns, Formulas, Substitution Introduction... Math is Patterns Expressions, Terms, Variables Definitions Summary Substitution is... Math Scrabble 1 Scrabble 1 Scrabble 2 Scrabble 3</p>	
<p>3.5 Formulas, Tables, and Graphs: Part 1 To represent rates with data tables, rules expressed in words, formulas, and line graphs.</p>	<p>Understanding Fractions Section 7: Ratios and Proportions 3.4 Formulas To examine how formulas are derived; and to evaluate formulas.</p>	
<p>3.6 A Science Experiment To use diagrams, formulas, and graphs for making predictions and drawing conclusions.</p>	<p>NOT INCLUDED</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
3.7 Variables and Formulas in Spreadsheets: Part 1 To introduce spreadsheets; and to use variables, formulas, and operations in spreadsheets.	<i>NOT INCLUDED</i>	
3.8 Variables and Formulas in Spreadsheets: Part 2 To practice spreadsheet computation; and to practice finding sums of signed numbers.	<i>NOT INCLUDED</i>	
3.9 Reading and Drawing Graphs To interpret and draw graphs that correspond to given situations. 3.10 Formulas, Tables, and Graphs: Part 2 To analyze a real-world situation by making and using a data table and a graph.	Understanding Graphing Section 2: Statistics Presenting Data Stem and Leaf Diagram Example 1... Age of Fans Example 2... Height of Students Bar Graph Example 1... Energy Example 2... Lengths of Rivers Histogram Example 1... Height of Students Example 2... Roll of Die Line Graph Example 1... Life Expectancy Example 2... Software Profits Circle or Pie Graphs Example 1... The Radio Station Example 2... Health Survey Scatter Plot Example 1... The T-Shirt Tailor Example 2... Matching	
3.11 Progress Check 3 To assess students' progress on mathematical content through the end of Unit 3.		



Unit 4. Rational Number Uses and Operations

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>4.1 Equivalent Fractions To review finding equivalent fractions and renaming fractions in simplest form.</p>	<p>Understanding Fractions Section 3: Equivalent Fractions Memory Game Easy Game Hard Game Instructions A Challenge.. Think About It Idea 1; Idea 2 Practice Questions: 10 questions (randomly generated) Topic Test : 10 questions (randomly generated)</p>	
<p>4.2 Comparing Fractions To compare fractions with unlike denominators.</p>	<p>Understanding Fractions Section 1: The Meaning of Fractions Comparison of Fractions The Symbol Greater Than – Ex 1 Greater Than – Ex 2 Less Than – Ex 1 Less Than – Ex 2 Greater and Less Than – Ex 1 Greater and Less Than – Ex 2 Concept 1 - Fractions Strips Concept 2 - Circles Examples 1, 2, 3, 4</p>	
<p>4.3 Adding and Subtracting Fractions To review adding and subtracting fractions with like and unlike denominators.</p>	<p>Understanding Fractions Section 8: Adding Fractions The Lowest Common Denominator Examples 1, 2 Word Problems Alexander's Friend Eating Candy Goal Scoring Taking a Walk Shapes in a Square Ex. 1, Ex. 2</p>	



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<p>4.3 Adding and Subtracting Fractions To review adding and subtracting fractions with like and unlike denominators. CONTINUED</p>	<p>Understanding Fractions Section 8: Adding Fractions Fraction Card Game Instructions Level 1 Level 2 Magic Square (randomly generated) Practice Questions: 10 questions (randomly generated) Topic Test: 10 questions (randomly generated)</p> <p>Section 9: Subtracting Fractions Subtracting Fractions on a Number Line Examples 1, 2, 3 Lowest Common Denominator Examples 1, 2 Word Problems Pedro and Alex's Race Washing the Cars Planting a Garden Practice Questions: 10 questions (randomly generated) Topic Test : 10 questions (randomly generated)</p>	
<p>4.4 Adding and Subtracting Mixed Numbers with Like Denominators To add and subtract mixed numbers with like denominators.</p> <p>4.5 Adding and Subtracting Mixed Numbers with Unlike Denominators To add and subtract mixed numbers with unlike denominators.</p>	<p>Understanding Fractions Section 13: Improper Fractions and Mixed Numbers Adding Mixed Numbers On a Ruler: 5 questions (randomly generated) Methods 1, 2 Subtracting Mixed Numbers On a Ruler: 5 questions (randomly generated) Methods 1, 2</p>	



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<p>4.6 Fraction Multiplication To represent the fraction multiplication algorithm as a general pattern; and to use the algorithm to find products of fractions.</p>	<p>Understanding Fractions Section 10: Multiplying Fractions Word Problems Boris' Money Maria's Trip Developing the Rule Examples 1, 2 A Summary The Meaning of "OF" Order in Multiplying Examples 1, 2 Multiplying Fractions with Larger Numbers Examples 1, 2 Multiplying Many Fractions Examples 1, 2 Practice Questions: 10 questions (randomly generated) Topic Test: 10 questions (randomly generated)</p>	
<p>4.9 More Difficult Conversions To develop a rule for converting between decimals and percents; and to convert fractions to decimals and percents.</p>	<p>Understanding Fractions Section 6: Percents, Fractions, Decimals Expressing a Percent as a Fraction Introduction Without Graphics Introduction With Graphics Expressing a Fraction In Simplest Form Greatest Common Factor Examples 1, 2 Simplifying Fractions Methods 1, 2 Examples Examples 1, 2, 3, 4 The Watering Can Expressing a Percent as a Decimal Introduction Examples 1, 2, 3 Number Line #1 Decimal Strips Concepts 1, 2, 3 Expressing Decimals as a Percent Examples 1, 2, 3</p>	



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<p>4.9 More Difficult Conversions To develop a rule for converting between decimals and percents; and to convert fractions to decimals and percents. CONTINUED</p>	<p>Summary Pattern % Nitrogen in Air Batting Averages Expressing Fractions as a Percent An Example Method 1 Example 1 Example 2 Method 2 Example 1 Example 2 Lightning Example Number Line #2 Chart Order Fractions, Decimals, Percent: 5 questions (randomly generated) Practice Questions: 11 questions (randomly generated) Topic Test: 10 questions (randomly generated)</p>	
<p>4.10 Graphing Garbage To represent data with circle graphs.</p>	<p>Understanding Graphing Section 2: Statistics Circle or Pie Graphs Example 1... The Radio Station Example 2... Health Survey</p>	



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<p>4.11 Percent of a Number To review finding a percent of a number.</p>	<p>Understanding Percent Section 5: Percent of a Number In This Topic Concept Examples 1. Money 2. Service Charge 3. Birds 4. Marathon Race 5. Freezing 6. Pie Chart The Bouncing Ball Successive Percentage Changes Julie and Amanda Brett and Carli Grades... What if? Calculate Pass or Fail? Practice Questions: 10 questions (randomly generated) Topic Test: 10 questions (randomly generated)</p>	
<p>4.12 Progress Check 4 To assess students' progress on mathematical content through the end of Unit 4.</p>		



Unit 5. Geometry: Congruence, Constructions, and Parallel Lines

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>5.1 Measuring and Drawing Angles To provide practice in classifying angles by size; and to measure and draw angles with a protractor.</p>	<p>Understanding Measurement and Geometry Section 5: Angles and Their Measure Measuring Angles Estimating Angle Measure 10 questions (randomly generated) Practice Questions: 5 questions (randomly generated) Topic Test: 5 questions (randomly generated)</p>	
<p>5.2 Reasoning with Angle Measures To find angle measures by reasoning with angle definitions and with sums of angle measure in triangles and quadrangles.</p>	<p>Understanding Measurement and Geometry Section 6: Angles and Polygons Angles in Polygons Methods 1, 1 Exterior Angles in a Polygon Practice Questions: 5 questions (randomly generated) Topic Test: 10 questions (randomly generated)</p>	
<p>5.3 Using a Protractor to Make Circle Graphs To introduce how to calculate degree measures of sectors; and to use a protractor to draw circle graphs.</p>	<p>Understanding Graphing Section 2: Statistics Circle or Pie Graphs Example 1... The Radio Station Example 2... Health Survey</p>	
<p>5.4 Coordinate Geometry To plot ordered number pairs; to apply properties of polygons; and to explore the relationship between endpoints and midpoints.</p>	<p>Understanding Graphing Section 3: Points on a Grid Shapes : Randomly Generated Battleship: Randomly Generated Topic Test : 5 questions (randomly generated)</p>	



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<p>5.5 Isometry Transformations To review transformations that produce another figure while maintaining the same size and shape of the original figure.</p>	<p>Understanding Graphing Section 4: Transformations Translations Object to Image We Say, We Write Translation Mapping Rule Examples Examples 1, 2, 3 Reflections Object to Image We Say, We Write Reflection Mapping Rule Examples Examples 1, 2 Rotations Object to Image We Say, We Write Rotation Mapping Rule Examples Examples 1, 2</p>	
<p>5.6 Congruent Figures To explore the meaning of congruence; and to use drawing tools to construct congruent figures.</p>	<p>NOT INCLUDED</p>	
<p>5.7 Compass-and-Straightedge Constructions Part 1 To construct figures with a compass and a straightedge.</p>	<p>Understanding Measurement and Geometry Section 7: Constructions Before You Begin In This Topic</p>	
<p>5.8 Compass-and-Straightedge Constructions Part 2 To copy angles and construct perpendicular bisectors; and to solve construction problems.</p>	<p>Understanding Measurement and Geometry Section 7: Constructions Perpendicular Bisector Construction Steps Summary</p>	



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<p>5.9 Parallel Lines and Angle Relationships To explore and apply angle relationships.</p> <p>5.10 Parallelograms To introduce the relationships between angles of parallelograms; and to construct a parallelogram using a compass and a straightedge.</p>	<p>Understanding Measurement and Geometry Section 6: Angles and Polygons In This Topic Parallel Lines Examples with Parallel Lines Examples 1, 2</p>	
<p>5.11 Progress Check 5 Progress Check 5 To assess students' progress on mathematical content through the end of Unit 5.</p>		

Unit 6. Numbers Systems and Algebra Concepts

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>6.1 Multiplication of Fractions and Mixed Numbers To review multiplying fractions and mixed numbers; and to find reciprocals.</p>	<p>Understanding Fractions Section 13: Improper Fractions and Mixed Numbers Multiplying Mixed Numbers: Area Method 2</p>	
<p>6.2 Division of Fractions and Mixed Numbers To introduce an algorithm for division of fractions.</p>	<p>Understanding Fractions Section 13: Improper Fractions and Mixed Numbers Dividing Mixed Numbers Fraction Card Game: Instructions Level 1; Level 2</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>6.3 Review: Addition and Subtraction of Positive and Negative Numbers To practice adding and subtracting positive and negative numbers.</p>	<p>Understanding Whole Numbers and Integers Section 5: Adding Integers Word Problems Temperature Money Car Practice Questions: 10 questions (randomly generated) Topic Test: 10 questions (randomly generated) Section 6: Subtracting Integers In This Topic Markers... An Introduction to Subtraction Markers... Help Us Understand Review Opposites Examples 1 through 8 The Pattern Elevators... An Introduction to Subtraction Examples 1 through 4 Summary... Using Elevators Summary... Add the Opposite Example Questions Example 1 ...With Brackets Example 2 ...With Brackets Example 3 ... Without Brackets Example 4... Without Brackets Example 5... Without Brackets Example 6... Without Brackets Summary From Example 3 to 6 Going for a Walk Preliminary The Walk David's Trip Part 1, Part 2 Summary Word Problems The Sailboat The Bank Practice Questions: 10 questions (randomly generated) Topic Test: 10 questions (randomly generated)</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>6.4 Multiplication and Division of Positive and Negative Numbers To develop and apply rules for multiplying and dividing positive and negative numbers.</p>	<p>Understanding Whole Numbers and Integers Section 7: Multiplying Integers Multiplication is... Examples 1, 2, 3 The Multiplication Table Order of Multiplication Explanation 1, 2 Markers... help in understanding An Introduction to Addition Opposites Positive Integers x Positive Integers Examples 1, 2 Positive Integers x Negative Integers Examples 1, 2 Negative Integers x Positive Integers Methods 1, 2 Negative Integers x Negative Integers Examples 1, 2 Pattern #1; Pattern #2 Summary #1 ... Sign Summary #2 ... Sign Example Questions Examples 1 through 5 Word Problems Washing Cars The Helicopter Construction Practice Questions: 17 questions (randomly generated) Topic Test: 10 questions (randomly generated)</p> <p>Section 8: Dividing Integers Division to Multiplication The Division Table Instructions Patterns Practice (10 questions randomly generated)</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>6.4 Multiplication and Division of Positive and Negative Numbers To develop and apply rules for multiplying and dividing positive and negative numbers. CONTINUED</p>	<p>The Inverse of Multiplication Examples 1, 2 Summary #1 ... Sign; Summary #2 ... Sign Examples Examples 1, 2, 3, 4 Fact Triangles Word Problems Casino Plant Graham's Walk Practice Questions: 8 questions (randomly generated) Topic Test: 10 questions (randomly generated)</p>	
<p>6.5 The Properties of Number Systems To summarize the properties of number systems and operations.</p>	<p>NOT INCLUDED</p>	
<p>6.6 Order of Operations To review the order of operations; and to evaluate expressions containing parentheses.</p> <p>6.7 Review: Number Sentences To review number sentences; and to translate word sentences into number sentences.</p>	<p>Understanding Whole Numbers and Integers Section 9: Order of Operations Order in Addition – Whole Numbers Trial 1, Trial 2 Conclusion Example 1, Example 2 Order in Addition – Integers Trial 1, Trial 2 Conclusion Example 1, Example 2 Order in Multiplication – Whole Numbers Trial 1, Trial 2 Conclusion Example 1, Example 2 Order in Multiplication – Integers Trial 1, Trial 2 Conclusion Example 1, Example 2 Why Use Order of Operations? – Whole Numbers Why Use Order of Operations? – Integers BEDMAS Please Excuse My Dear Aunt Sally Example Questions – Whole Numbers</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>6.6 Order of Operations To review the order of operations; and to evaluate expressions containing parentheses.</p> <p>6.7 Review: Number Sentences To review number sentences; and to translate word sentences into number sentences. CONTINUED</p>	<p>BEDMAS Examples 1 through 10 Please Excuse My Dear Aunt Sally Examples 1 through 10 Example Questions – Integers BEDMAS Examples 1 through 10 Please Excuse My Dear Aunt Sally Examples 1 through 10 Word Problems Shipping Babysitting Garbage Practice Questions BEDMAS: 10 questions (randomly generated) Please Excuse My Dear Aunt Sally: 10 questions (randomly generated) Topic Test: 10 questions (randomly generated)</p>	
<p>6.8 Solving Simple Equations To use trial and error and a cover-up method to solve equations.</p> <p>6.9 Review: Pan-Balance Problems To model equation-solving techniques</p> <p>6.10 Pan-Balance Equations To explore a method for solving equations.</p> <p>6.11 The Equivalent-Equations Method To write and solve equivalent equations.</p>	<p>Understanding Equations Section 1: Tiles, Balances and Equations Balances... An Introduction Tiles, Balances, Equations Practice Questions: 5 questions (randomly generated) Topic Test: 10 questions (randomly generated)</p> <p>Section 2: Solving One-Step Equations Our Problem Concept – Examples with Tiles Examples 1 through 5 Concept – Examples without Tiles Examples 1 through 5 Practice Questions: 10 questions (randomly generated) Topic Test: 10 questions (randomly generated)</p>	



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6.12 Inequalities To find and represent all the values that make an inequality in one variable true.	Understanding Equations Section 7: Solving Inequalities Inequalities What Are They?	
6.13 Progress Check 6 To assess students' progress on mathematical content through the end of Unit 6.		



Unit 7. Probability and Discrete Mathematics

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>7.1 Probabilities When Outcomes are Equally Likely To review the basic concepts of probability; and to provide experiences finding probabilities for events when all outcomes are equally likely.</p>	<p>Understanding Probability Section 1: Introduction to Probability The Language of Chance Impossible to Certain Activity 1; Activity 2 Probability Lines Line 1; Line 2 Possible Outcomes What Are They? 1. Coins 2. Pick 1 Ball 3. Pick 2 Balls 4. Eye Test 5. Travel</p> <p>Section 2: What's the Chance? Probability What is it Introduction 1; Introduction 2 Probability Examples 1. Coin Toss 2. Picking 1 Ball 3. Picking 2 Balls 4. Spinner #1 5. Spinner #2 6. The Bag 7. Travel Example 8. Number Example 9. Rabbit Example 10. Mailing Letters 11. Forest 12. Ahmed's Maze</p>	
<p>7.2 Generating Random Numbers To investigate random numbers; and to use number cards to generate random numbers within a given range.</p>	<p>NOT INCLUDED</p>	
<p>7.3 A Random-Number Simulation To simulate a situation using random numbers; and to use simulation results to estimate the chance of each possible outcome.</p>	<p>NOT INCLUDED</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>7.4 Tree Diagrams To use tree diagrams to find expected outcomes for chance events; and to compare actual results of a simulation to expected outcomes.</p> <p>7.5 Using Tree Diagrams to Calculate Probabilities To use tree diagrams to help calculate probabilities.</p>	<p>Understanding Probability Section 1: Introduction to Probability Tree Diagrams</p>	
<p>7.6 Venn Diagrams To solve problems using Venn diagrams.</p>	<p>Understanding Measurement and Geometry Section 2: Perimeter and Area of Polygons Classify Polygons with Venn Diagrams</p> <p>Understanding Fractions Section 2: Products, Multiples, Factors Venn Diagrams – Factors</p>	
<p>7.7 Fair and Unfair Games To determine whether or not games of chance are fair games.</p>	<p>Understanding Probability Section 2: What's the Chance? Probability Scale Examples Summary Follow up Soccer Example</p>	
<p>7.8 Strategies for Multiple-Choice Tests To investigate the effects of guessing on multiple-choice tests.</p>	<p>NOT INCLUDED</p>	
<p>7.9 Progress Check 7 To assess students' progress on mathematical content through the end of Unit 7.</p>		



Unit 8. Rates and Ratios

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>8.1 Rates, Rate Tables, and Unit Rates To review rates; to use the per-unit-rate and rate-table methods of solving rate problems; and to introduce proportions as models for rate situations.</p>	<p>Understanding Percent Section 4 : Ratios and Proportions Rate and Unit Rate Concept Examples The Best? Examples 1, 2, 3</p>	
<p>8.2 Solving Rate Problems with Proportions To use proportions to model and solve rate problems.</p>	<p>Understanding Percent Section 4 : Ratios and Proportions What is a Proportion? Proportions with Pattern Blocks Examples 1, 2, 3 Proportions Example 1 Example 2 - Lemonade Example 3 - Marbles Example 4 - Trout Example 5 -Tree Height Example 6 - Map Example 7 - Scale Drawing</p>	
<p>8.3 Solving Proportions by Cross Multiplication To introduce and use cross multiplication to solve problems.</p>	<p>NOT INCLUDED</p>	
<p>8.4 Calorie Use To estimate calorie use per day; and to practice solving rate problems.</p>	<p>NOT INCLUDED</p>	
<p>8.5 Using Nutrition Information To solve rate and percent problems involving caloric content of food.</p>		



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>8.6 Ratios To review notations for and meanings of ratios; and to solve problems involving part-to-part and part-to-whole ratios.</p>	<p>Understanding Percent Section 4 : Ratios and Proportions Ratios in the News What is a Ratio? Example 1 - Fraction Strip Example 2 - Balls Example 3 - Students Example 4 - Gears Writing Ratios Concept Examples 1 through 6</p>	
<p>8.7 Using Proportions to Solve Percent Problems To solve percent problems by writing and solving proportions.</p>	<p>Understanding Percent Section 4 : Ratios and Proportions Practice Questions: 10 questions (randomly generated) Topic Test: 10 questions (randomly generated)</p>	
<p>8.8 Calculating the Fat Content of Foods To estimate percent equivalents for fractions; and to convert fractions to percent with a calculator, using division.</p>	<p>NOT INCLUDED</p>	
<p>8.9 Using Ratios to Describe Size Changes To explore the use of ratios to describe size changes.</p>	<p>NOT INCLUDED</p>	
<p>8.10 Similar Polygons To explore the properties of similar polygons.</p>	<p>Understanding Measurement and Geometry Section 2: Perimeter and Area of Polygons Polygons... What are They? Concept A Triangle is A Quadrilateral is A Pentagon is A Hexagon is An Octagon is Classify Polygons Classify Polygons with Venn Diagrams</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>8.11 Comparing Ratios To compare ratios by renaming them and n-to-1 ratios; and to introduce the Golden Ratio.</p> <p>8.12 The Golden Ratio To explore Golden Rectangles and the Golden Ratio.</p>	<p>Understanding Percent Section 4 : Ratios and Proportions Golden Ratio Introduction Part 1; Part 2</p>	
<p>8.13 Progress Check 8 To assess students' progress on mathematical content through the end of Unit 8.</p>		

Unit 9. More About Variables, Formulas, and Graphs

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>9.1 Area Models for the Distributive Property To explore the distributive property using area models.</p>	<p>Understanding Measurement and Geometry</p>	
<p>9.2 The Distributive Property To recognize the general patterns used to write the distributive property; and to mentally compute products using distributive strategies.</p>	<p>Section 3: Multiplying and Dividing Whole Numbers The Distributive Method Examples 1, 2, 3 Questions 1, 2, 3</p>	
<p>9.3 Simplifying Expressions: Combining Like Terms To simplify algebraic expressions by combining like terms.</p>	<p>Understanding Algebra Section 4: Patterns, Formulas, Substitution Introduction... Math is Patterns Expressions, Terms, Variables Definitions Summary Substitution is... Math Scrabble 1 Scrabble 1 Scrabble 2 Scrabble 3 Challenge Patterns... Hockey Standings Patterns... Squares – Perimeter and Area Patterns... Toothpicks Introduction Exploration To Formula Patterns 1, 2, 3, 4; Summary</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>9.4 Simplifying Expressions: Removing Parentheses To simplify algebraic expressions by eliminating parentheses and combining like terms.</p>	<p>Understanding Algebra Section 5: Adding Expressions Our Problem Adding Expressions with X and Y Tiles Examples 1, 2, 3</p>	
<p>9.5 Simplifying and Solving Equations To simplify and solve equations.</p> <p>9.6 Using Equations to Solve Mobile Problems To write and solve equations based on a given formula.</p>	<p>Understanding Equations Section 2: Solving One-Step Equations Our Problem Concept – Examples with Tiles Examples 1 through 5 Concept – Examples without Tiles Examples 1 through 5 Practice Questions: 10 questions (randomly generated) Topic Test: 10 questions (randomly generated)</p>	
<p>9.7 Computer Spreadsheets To learn how data are entered and displayed in a computer spreadsheet program.</p>	<p>NOT INCLUDED</p>	
<p>9.8 Area Formulas with Applications To review and use formulas for perimeter, circumference, and area.</p>	<p>Understanding Exponents Section 2: Exponents in Formulas Examples with Area Formulas Examples 1, 2, 3</p>	
<p>9.9 Volume Formulas with Applications To review volume formulas for rectangular prisms, cylinders, and spheres.</p>	<p>Understanding Measurement and Geometry Section 9: Ratios for Areas and Volumes In This Topic Volume</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>9.10 Solving Equations by Trial and Error To approximate the solutions of equations using a trial-and-error method.</p>	<p>Understanding Equations Understanding Equations Section 2: Solving One-Step Equations Our Problem Concept – Examples with Tiles Examples 1 through 5 Concept – Examples without Tiles Examples 1 through 5 Practice Questions: 10 questions (randomly generated) Topic Test: 10 questions (randomly generated)</p>	
<p>9.11 Formula Equations To evaluate formulas by substituting values for the variables and solving the resulting equations.</p>	<p>Understanding Algebra Section 4: Patterns, Formulas, Substitution Substitution is... Math Scrabble 1 Scrabble 1 Scrabble 2 Scrabble 3 Challenge</p>	
<p>9.12 The Pythagorean Theorem To apply the Pythagorean theorem.</p>	<p>Understanding Exponents Section 6: Pythagorean Theorem In This Topic The Right Triangle Math or Magic? Introduction Omar's Rope Trick #1 Omar's Rope Trick #2 Our Rope Trick Squares on a Grid Examples 1, 2, 3, 4 Squares on the Sides of a Right Triangle Triangle #1; Triangle #2; Triangle #3 The Pythagorean Theorem The Pattern In General Theorem Example Questions Example 1... Pole Example Example 2... Tower Example Example 3... Walking Example Example 4... Lake Example</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
9.13 Indirect Measurement Problems To find missing lengths in similar figures using a size-change factor.	NOT INCLUDED	
9.14 Progress Check 9 To assess students' progress on mathematical content through the end of Unit 9.		

Unit 10. Geometry Topics

10.1 Semiregular Tessellations To introduce semiregular tessellations.	Understanding Graphing Section 4: Transformations Tessellations Introductions Examples Examples 1 through 5	
10.2 Escher-Type Translation Tessellations To create nonpolygonal, Escher-type translation tessellations.	NOT INCLUDED	
10.3 Rotation Symmetry To explore point and rotation symmetry.	Understanding Graphing Section 4: Transformations Rotation – An Introduction Turn #1, #2, #3, #4, #5 Rotation Mapping Rule Examples Examples 1, 2	
10.4 Introduction to Topology To introduce topology; and to perform topological transformations.	NOT INCLUDED	
10.5 Mobius Strips To experiment with Mobius strips.	NOT INCLUDED	
10.6 Progress Check 10 To assess students' progress on mathematical content through the end of Unit 10.		

