

Correlation of the Understanding Math 2008© Programs With the Everyday Math for Grade 4

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: page two	Unit Seven: pages seventeen to twenty-one
Unit Two: pages three to five	Unit Eight: pages twenty-two to twenty-three
Unit Three: pages six to eight	Unit Nine: pages twenty-four to twenty-six
Unit Four: pages nine to eleven	Unit Ten: pages twenty-six to twenty-eight
Unit Five: pages twelve to fourteen	Unit Eleven: pages twenty-eight to twenty-nine
Unit Six: pages fifteen to sixteen	Unit Twelve: page thirty

Unit 1. Naming and Constructing Geometric Figures

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>1.2 Points, Line Segments, Lines, and Rays To introduce tools for geometry; and to review points, line segments, lines, and rays.</p>	<p>Understanding Measurement and Geometry Section 5. Angles and their Measure Lines and Rays</p>	
<p>1.3 Angles, Triangles, and Quadrangles To guide students in the construction of angles, triangles, and quadrangles and in the classification of quadrangles.</p>	<p>Understanding Measurement and Geometry Section 5. Angles and their Measure Angles... An Introduction The Degree Classify Angles Classification Memory Game</p>	
<p>1.4 Parallelograms To model the classification of quadrangles based on their properties.</p> <p>1.5 Polygons To provide opportunities to identify properties of polygons and distinguish between convex and nonconvex (concave) polygons; and to explore geometric definitions and classification.</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>	
<p>1.6 Drawing Circles with a Compass To provide practice using a compass.</p> <p>1.7 Circle Constructions To guide students in defining a circle; and to provide opportunities to explore designs with circles.</p>	<p>Understanding Measurement and Geometry Section 3: Circles In This Topic Circles All Around Us! Radius, Circumference, Diameter</p>	
<p>1.8 Hexagon and Triangle Constructions To guide students in the construction of figures with a compass and straightedge.</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</p>	



1.9 Progress Check 1 To assess students' progress on mathematical content through the end of Unit 1.		
--	--	--

Unit 2. Using Numbers and Organizing Data

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
2.1 A Visit to Washington, D.C. To review examples of various ways in which numbers are used; and to introduce the World Tour Project.	NOT INCLUDED	
2.2 Many Names for Numbers To review equivalent names for whole numbers and name-collection boxes.	Understanding Whole Numbers and Integers Section 1: The Meaning of Whole Numbers Seeing the Number To Tens Example 1 Example 2 To Hundreds Example 1 Example 2	
2.3 Place Value in Whole Numbers To provide practice identifying values of digits in numbers up to one billions; and to provide practice reading and writing numbers up to one billion.	Understanding Whole Numbers and Integers Section 1: The Meaning of Whole Numbers Place Value to 999 999 Examples Example 1, Example 2	
2.4 Place Value with a Calculator To provide practice with place-value skills using a calculator routine; and to review reading and writing large numbers.	Understanding Whole Numbers and Integers Section 1: The Meaning of Whole Numbers Millions Examples Example 1, Example 2, Example 3, Example 4 The Numberline Billions Example Comparing Large Numbers Example 1, Example 2, Example 3, Example 4	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>2.5 Organizing and Displaying Data To provide practice organizing and displaying data with a tally chart and determining the maximum, minimum, range, and mode of a set of data.</p>	<p>Understanding Graphing Section 2: Statistics In This Topic An Introduction Tally Chart</p>	
<p>2.6 The Median To review how to display a set of data with a line plot; and to review how to find the median of a set of data.</p>	<p>Understanding Graphing Section 2: Statistics Measures of Central Tendency Introduction The Mean Average The Median Average</p>	
<p>2.7 Addition of Multidigit Numbers To review the partial-sums algorithm used to solve multidigit addition problems; and to introduce a column-addition method similar to the traditional addition algorithm.</p>	<p>Understanding Whole Numbers and Integers Section 2: Adding and Subtracting Whole Numbers Add... Partial Sums Example 1, 2 – With Blocks Example 3 through 6 – Without Blocks Add... Trade First Example 1, 2 – With Blocks Example 3 through 6 – Without Blocks Add... Right to Left Example 1, 2 – With Blocks Example 3 through 6 – Without Blocks</p>	
<p>2.8 Displaying Data with a Bar Graph To provide practice measuring length to the nearest half-centimeter; and to guide the construction and use of bar graphs for a set of collected data.</p>	<p>Understanding Graphing Section 2: Statistics Bar Graph #1, Bar Graph #2</p> <p>Understanding Measurement and Geometry Section 1: An Introduction to Measurement Measurement with a Ruler - Centimeters A Pencil... An Introduction Example 1, Example 2 Ruler – Click on the Point: 10 questions (randomly generated) Ruler – Click and Drag: 10 questions (randomly generated)</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>2.9 Subtraction of Multidigit Numbers To review the trade-first and counting-up methods, and to introduce the partial-differences method of solving multidigit subtraction problems; and to provide practice estimating differences for multidigit subtraction problems.</p>	<p>Understanding Whole Numbers and Integers Section 2: Adding and Subtracting Whole Numbers Subtract... Right to Left Example 1, 2 – With Blocks Example 3 through 6 – Without Blocks Subtract ... Trade First Example 1, 2 – With Blocks Example 3 through 6 – Without Blocks Subtract ... Add Up Example 1 through 4– With Blocks Example 5, 6 – Without Blocks Subtract ... Add Up to Zero Example 1, Example 2, Example 3, Example 4</p>	
<p>2.10 Progress Check 2 To assess students' progress on mathematical content through the end of Unit 2.</p>		



Unit 3. Multiplication and Division; Number Sentences and Algebra

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>3.1 “What’s My Rule?” To review “What’s My Rule?” problems.</p>	<p><i>NOT INCLUDED</i></p>	
<p>3.2 Multiplication Facts To review strategies for solving multiplication facts; and to help students work toward instant recall of the multiplication facts.</p> <p>3.3 Multiplication Facts Practice To establish a 50-facts test routine; and to provide practice with multiplication facts.</p>	<p>Understanding Whole Numbers and Integers Section 3: Multiplying and Dividing Whole Numbers Multiplication Facts Groups of 6 Groups of 7 Groups of 8 Groups of 9</p>	
<p>3.4 More Multiplication Facts Practice To give a 50-facts test and record the results; and to provide practice with multiplication facts.</p>	<p>Understanding Whole Numbers and Integers Section 3: Multiplying and Dividing Whole Numbers Multiplication Facts Groups of 6 Groups of 7 Groups of 8 Groups of 9 The 10 x 10 Multiplication Table User Picks Computer Picks The 12 x 12 Multiplication Table</p>	
<p>3.5 Multiplication and Division To guide exploration of the relationship between multiplication and division; and to provide practice with division facts.</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</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>3.6 World Tour: Flying to Africa To provide practice interpreting data through the World Tour Project.</p>	<p>Understanding Graphing Section 2: Statistics Data... What is it? Examples of Data Example 1... Fast Food Earnings Example 2... Infants Walk Example 3... Canada and U.S.A. Forecast Example 4... King of the Strike Out Example 5... U.S. Stake in India Example 6... Allergy Troubles A Summary: Examples</p>	
<p>3.7 Finding Air Distances To provide practice measuring length and using a map scale.</p>	<p>Understanding Measurement and Geometry Section 1: An Introduction to Measurement Measurement In The News A Glimpse Into The Past Distance: Guess and Measure #1: 4 questions (randomly generated) Distance: Guess and Measure #2: 4 questions (randomly generated) Measurement with a Ruler – Inches Scale Examples 1, 2, 3</p>	
<p>3.8 A Guide for Solving Number Stories To introduce a simplified approach to solving number stories; and to provide practice solving number stories.</p>	<p>Understanding Algebra Section 1: Introduction to Algebraic Thinking Trick #1 - Whole Numbers Instructions Trick Machine Explanation Trick #2 - Whole Numbers Instructions Explanation Trick #3 - Whole Numbers Instructions Explanation Pictures to Words – Whole Numbers Pictures to Words More Pictures to Words</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>3.9 True or False Number Sentences To review the meanings of number sentences; and to provide practice determining whether number sentences are true or false.</p>	<p>Understanding Algebra Section 1: Introduction to Algebraic Thinking Containers in Number Sentences – Addition: 10 questions (randomly generated)</p>	
<p>3.10 Parentheses in Number Sentences To review the use of parentheses in number sentences.</p>	<p>Understanding Whole Numbers and Integers Section 9: Order of Operations Order in Addition – Whole Numbers Trial 1, Trial 2 Conclusion BEDMAS Please Excuse My Dear Aunt Sally Example Questions – Whole Numbers</p>	
<p>3.11 Open Sentences To introduce vocabulary and notation for open sentences; and to provide practice solving open sentences.</p>	<p>NOT INCLUDED</p>	
<p>3.12 Progress Check 3 To assess students' progress on mathematical content through the end of Unit 3.</p>		



Unit 4. Parentheses in Number Sentences

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>4.1 Decimal Place Value To extend the base-ten place-value system to decimals.</p>	<p>Understanding Fractions Section 5: Introduction to Decimals Introduction to Decimals Tenths and Decimals Examples 1, 2, 3, 4 Ones and Tenths Examples 1, 2, 3, 4 Decimals on a Numberline Examples 1, 2, 3, 4, 5 Place Value Ones and Tenths 1 Ones and Tenths 2 Tens, Ones and Tenths Decimals on a Numberline</p>	
<p>4.2 Review of Basic Decimal Concepts To review basic concepts and notation for decimals through hundredths.</p>	<p>Understanding Fractions Section 5: Introduction to Decimals Ones, Tenths, Hundredths, Thousandths Decimals to Tenths Examples 1, 2 Decimals to Hundredths Examples 1, 2, 3, 4, 5</p>	
<p>4.3 Comparing and Ordering Decimals To guide students as they compare and order decimals in tenths and hundredths.</p>	<p>Understanding Fractions Section 5: Introduction to Decimals Comparing Decimals Examples 1, 2, 3, 4 Ordering Decimals Introduction Examples 1, 2, 3, 4</p>	
<p>4.4 Estimating with Decimals To explain why decimals are useful; and to guide estimation of sums and differences of decimals.</p>	<p>Understanding Fractions Section 5: Introduction to Decimals Estimation on the Decimal Line Level 1: 0 to 1 Level 2: 0 to 5</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>4.5 Decimal Addition and Subtraction To extend methods for whole-number addition and subtraction to decimals.</p>	<p>Understanding Fractions Section 14: Addition and Subtraction of Decimals Adding Decimals: Click and Drag - 5 questions (randomly generated) Tenths –The Pencil Examples 1 through 5 Tenths -The Line Examples 1 through 4 Hundredths –The Town Example 1 (randomly generated maps) Example 2 (randomly generated maps) Example 3 (randomly generated maps) Example 4 (randomly generated maps) Method 1 -Partial Sums 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 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</p>	
<p>4.6 Decimals in Money To provide practice adding and subtracting decimals to compute balances in a savings account.</p>	<p>NOT INCLUDED</p>	
<p>4.7 Thousandths To extend basic concepts and notation for decimals to compute balances in a savings account.</p>	<p>Understanding Fractions Section 5: Introduction to Decimals Ones, Tenths, Hundredths, Thousandths Decimals to Thousandths Examples 1, 2, 3, 4, 5 Understanding Place Value Examples 1, 2, 3, 4</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>4.8 Metric Units of Length To review relationships among metric units of length; and to guide students as they work with metric measurements.</p>	<p>Understanding Measurement and Geometry Section 1: An Introduction to Measurement Measurement with a Ruler - Centimeters A Pencil... An Introduction Example 1, Example 2 Ruler – Click on the Point: 10 questions (randomly generated) Ruler – Click and Drag: 10 questions (randomly generated) Calculating Distances – Introduction: 10 questions (randomly generated) Calculating Distances - Distances Examples 1 through 6 Scale Examples 1, 2, 3 Metric Conversions - Length Introduction – Off Computer Understanding Metric Prefixes Metric Prefixes at Work Metric Match Introduction Metric Match – Examples: 3 questions (randomly generated)</p>	
<p>4.9 Personal References for Metric Length To assist students as they establish personal references for metric units of length.</p>	<p>Understanding Measurement and Geometry Section 1: An Introduction to Measurement Benchmarks - Metric Introduction Examples: 4 questions (randomly generated)</p>	
<p>4.10 Measuring in Millimeters To guide students as they measure lengths to the nearest millimeter; and to provide practice converting measurements between millimeters and centimeters.</p>	<p>NOT INCLUDED</p>	
<p>4.11 Progress Check 4 To assess students' progress on mathematical content through the end of Unit 4.</p>		



Unit 5: Big Numbers, Estimation, and Computation

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>5.1 Extended Multiplication Facts To extend basic multiplication facts to products of ones and tens and products of tens and tens.</p>	<p>Understanding Whole Numbers and Integers Section 3: Multiplying and Dividing Whole Numbers The 10 x 10 Multiplication Table User Picks Computer Picks The 12 x 12 Multiplication Table Associative Property Example 1, Example 2 Patterns in Multiplication Patterns in Multiplication by 10 Patterns in Multiplication by 100 Patterns in Multiplication by 1000 Examples 1, 2, 3</p>	
<p>5.2 Multiplication Wrestling To provide practice with extended multiplication facts; and to introduce the basic principles of multiplication with multidigit numbers.</p>	<p>Understanding Whole Numbers and Integers Section 3: Multiplying and Dividing Whole Numbers Multiply by a Single Digit Multiplier Repeated Addition Example 1, 2 – With Blocks Example 3, 4 – Without Blocks</p>	
<p>5.3 Estimating Sums To provide practice deciding whether estimation is appropriate in a given situation; and to provide practice estimating sums.</p>	<p>NOT INCLUDED</p>	
<p>5.4 Estimating Products To provide practice estimating whether a product is in the tens, hundreds, thousands, or more.</p>	<p>NOT INCLUDED</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>5.5 Partial-Products Multiplication (Part 1) To review and provide practice with the partial-products algorithm for 1-digit multipliers.</p>	<p>Understanding Whole Numbers and Integers Section 3: Multiplying and Dividing Whole Numbers Partial Product - Area Example 1, 2, 3 – With Blocks Example 4, 5, 6 – Without Blocks Questions 1, 2, 3</p>	
<p>5.6 Partial-Products Multiplication (Part 2) To introduce and provide practice with the partial-products algorithm for 2-digit multipliers.</p>	<p>Understanding Whole Numbers and Integers Section 3: Multiplying and Dividing Whole Numbers Multiply by a Two Digit Multiplier Partial Product - Area Example 1, 2, 3 – With Blocks Example 4, 5, 6 – Without Blocks Questions 1, 2, 3</p>	
<p>5.7 Lattice Multiplication To review and provide practice with the lattice method for multiplication.</p>	<p>Understanding Whole Numbers and Integers Section 3: Multiplying and Dividing Whole Numbers The Lattice Method Examples 1, 2, 3 Questions 1, 2, 3</p>	
<p>5.8 Big Numbers To provide practice reading, writing, and comparing large numbers using patterns in the base-ten place-value system.</p>	<p>Understanding Whole Numbers and Integers Section 1: The Meaning of Whole Numbers Millions Examples Example 1, Example 2, Example 3, Example 4 The Numberline Billions Example Comparing Large Numbers Example 1, Example 2, Example 3, Example 4 Ordering Large Numbers Example 1, Example 2, Example 3, Example 4</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>5.9 Powers of 10 To introduce exponential notation for powers of 10 as a way of naming the values of places in our base-ten system.</p>	<p>Understanding Exponents Section 1: The Meaning of Exponents Introduction... The Money Game Money Grab Game Show Graphs... Game Show Results Graphs... Compare The Two Results Introduction... Bacteria Doubling Introduction... Paper Folding Experiment Pattern Exponents, Powers, Bases Powerful Explosions Introductory Examples Examples 1 through 5</p>	
<p>5.10 Rounding and Reporting Large Numbers To discuss sensible ways of reporting a count when a large number of items has been counted.</p>	<p>Understanding Whole Numbers and Integers Section 1: The Meaning of Whole Numbers Rounding Large Numbers Example 1, Example 2, Example 3, Example 4, Example 5</p>	
<p>5.11 Comparing Data To guide students as they look up and compare numerical data, including geographical measurements.</p>	<p>Understanding Graphing Section 2: Statistics Data... What is it? Examples of Data Example 1... Fast Food Earnings Example 2... Infants Walk Example 3... Canada and U.S.A. Forecast Example 4... King of the Strike Out Example 5... U.S. Stake in India Example 6... Allergy Troubles A Summary: Examples Statistics... What is it?</p>	
<p>5.12 Progress Check 5 To assess students' progress on mathematical content through the end of Unit 5.</p>		



Unit 6. Division; Map Reference Frames; Measure of Angles

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>6.1 Multiplication and Division Number Stories To provide practice solving multiplication and division number stories by using diagrams to organize information.</p>	<p>Understanding Whole Numbers and Integers Section 3: Multiplying and Dividing Whole Numbers Whole Numbers Around Us Example 1 – Oranges Example 2 – Bananas Example 3 - Cycling Example 4 – Baseball Cards Example 5 – Cookies Example 6 – Running Example 7 - Apples Example 8 – Savings Example 9 - Sit-ups Example 10 – Taxi Example 11 - Skipping</p>	
<p>6.2 Strategies for Division To guide the exploration of a variety of strategies to solve equal-grouping division number stories.</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</p>	
<p>6.3 The Partial-Quotient Division Algorithm, Part 1 To introduce and provide practice with a “low-stress” division algorithm for 1-digit divisors.</p>	<p>Understanding Whole Numbers and Integers Section 3: Multiplying and Dividing Whole Numbers Divide by a Partial Quotient Partial Quotient – Examples 1, 2, 3, 4</p>	
<p>6.4 Expressing and Interpreting Remainders To introduce the expression of remainders as fractions or decimals; and to provide practice interpreting remainders in division problems.</p>	<p>NOT INCLUDED</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>6.5 Rotations and Angles To review rotations; and to guide students as they make and use a full-circle protractor.</p>	<p>Understanding Graphing Section 4. Transformations Rotation – An Introduction Turn #1, #2, #3, #4, #5</p>	
<p>6.6 Using a Full-Circle Protractor To provide practice using a full-circle protractor to measure and draw angles less than 360°.</p> <p>6.7 Half-Circle Protractor To guide students as they classify angles as acute, right, obtuse, straight, and reflex; and to provide practice using a half-circle protractor to measure and draw angles.</p>	<p>Understanding Measurement and Geometry Section 5. Angles and their Measure Angles... An Introduction The Degree Classify Angles Classification Memory Game Measuring Angles</p>	
<p>6.8 Rectangular Coordinate Grids for Maps To guide students in the use of letter-number pairs and ordered pairs of numbers to locate points on a grid; and to provide practice using a map scale.</p>	<p>Understanding Graphing Section 3: Points on a Grid In This Topic Josh’s Neighborhood Concept Number Houses Grids on Maps Given Coordinates... Find Location Examples Given Location... Find Coordinates</p>	
<p>6.9 Global Coordinate Grid System To introduce latitude and longitude; to provide practice finding the latitude and longitude of places on a globe and a map; and to identify places given the latitude and longitude.</p>	<p>NOT INCLUDED</p>	
<p>6.10 The Partial-Quotient Division Algorithm, Part 2 To provide practice with a “low-stress” division algorithm for 2-digit divisors.</p>	<p>Understanding Whole Numbers and Integers Section 3: Multiplying and Dividing Whole Numbers Divide by a Partial Quotient Partial Quotient – Examples 1, 2, 3, 4</p>	
<p>6.11 Progress Check 6 To assess students’ progress on mathematical content through the end of Unit 6.</p>		



Unit 7. Fractions and Their Uses; Chance and Probability

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>7.1 Review of Basic Fraction Concepts To review fractions as parts of a whole (ONE), fractions on number lines, and uses of fractions.</p>	<p>Understanding Fractions Section 1: The Meaning of Fractions Introduction.. Think, Write, Say Circle Squares Balls Examples Parts of a Fraction Part of a Whole One Half One Third One Quarter Parts of a Whole Two Fifths Three Eighths Seven Tenths Write the Fraction Questions 1, 2, 3, 4 Fractions on a Number Line Halves Thirds Quarters Summary Place Them Examples 1, 2, 3, 4 Pattern Blocks Examples 1, 2, 3, 4</p>	
<p>7.2 Fractions of Sets To provide practice finding fractional parts of sets.</p>	<p>Understanding Fractions Section 1: The Meaning of Fractions Fraction of a Set Example 1 - Marbles Example 2 - Candies Example 3 - Birthday Cake Fraction of a Gas Tank Fractions of a Set Task 6 – Tenths of a Set Task 7 – Thirds of a Set Task 8 – Halves of a Set Task 9 – Fourths of a Set</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>7.3 Probabilities When Outcomes Are Equally Likely To review basic vocabulary and concepts of probability; and to introduce finding probabilities for events when all the possible 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</p>	
<p>7.4 Pattern-Block Fractions To guide students as they find fractional parts of polygonal regions.</p>	<p>Understanding Fractions Fractions of a Shape Fraction of a Square One Half One Quarter One Eighth One Sixteenth One Thirty-Second Three Eighths Fraction of a Hexagon One Sixth One Third One Half Two Thirds Five Sixths Fraction of an Octagon One Eighth One Quarter One Half Five Eighths Three Fourths Fraction of a Shape: 3 Choices Fraction of Odd Shapes Examples 1, 2</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>7.5 Fraction Addition and Subtraction To guide students in the use of pattern blocks to add and subtract fractions.</p>	<p>Understanding Fractions Section 8: Adding Fractions Pattern Blocks Hexagon 1 Hexagon 2 Hexagon 3 Summary</p> <p>Section 9: Subtracting Fractions Pattern Blocks Hexagon 1 Hexagon 2 Hexagon 3 Summary</p>	
<p>7.6 Many Names for Fractions To guide the development and use of a rule for generating equivalent fractions.</p> <p>7.7 Equivalent Fractions To guide the development and use of a rule for generating equivalent fractions.</p>	<p>Understanding Fractions Section 3: Equivalent Fractions Introduction Square Triangle Pattern Blocks Hexagon 1 Hexagon 2 Fraction Strips Concepts 1, 2 The Clock Introduction 1 Introduction 2 Examples (randomly generated) On a Square Grid Examples 1 through 5 On a Dot Grid Examples 1, 2, 3, 4 Slicing Examples 1 through 6 An Explanation With Sets Case 1 Case 2 Summary</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>7.8 Fractions and Decimals To provide experience renaming fractions as decimals and decimals as fractions; and to develop an understanding of the relationship between fractions and division.</p>	<p>Understanding Fractions Section 5: Introduction to Decimals Introduction to Decimals Tenths and Decimals Examples 1, 2, 3, 4 Ones and Tenths Examples 1, 2, 3, 4 Decimals on a Numberline Examples 1, 2, 3, 4, 5</p>	
<p>7.9 Comparing Fractions To provide practice ordering sets of fractions.</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>7.10 The ONE for Fractions To guide students as they find the whole, or the ONE, for given fractions.</p>	<p>Understanding Fractions Section 1: The Meaning of Fractions Wholes and Parts Fractions of a Shape Task 1 – Quarters of a Shape Task 2 – Thirds of a Shape Task 3 – Fifths of a Shape Task 4 – Sixths of a Shape Task 5 – Eighths of a Shape Fractions of a Set Task 6 – Tenths of a Set Task 7 – Thirds of a Set Task 8 – Halves of a Set Task 9 – Fourths of a Set</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>7.11 Probability, Fractions, and Spinners To review basic ideas of probability, including fairness and expected results; and to guide the application of fractions to spinners.</p>	<p>Understanding Probability Section 1: Introduction to Probability Possible Outcomes What Are They? 1. Coins 2. Pick 1 Ball 3. Pick 2 Balls 4. Eye Test 5. Travel</p>	
<p>7.12 A Cube-Drop Experiment To guide students in comparing predicted and actual results from an experiment with equally likely outcomes.</p>	<p>Understanding Probability Section 1: Introduction to Probability Experiment with Spinners Experiments 1 through 6 The Spinner Game Board 1 Single Player 2 player Board 2 Single Player 2 player IT's in the Bag</p>	
<p>7.13 Progress Check 7 To assess students' progress on mathematical content through the end of Unit 7.</p>		



Unit 8. Perimeter and Area

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>8.1 Kitchen Layouts and Perimeter To provide experience measuring and adding distances; finding the median and other landmarks of a set of measurement; and finding the perimeters of triangles.</p>	<p>Understanding Measurement and Geometry Section 1: An Introduction to Measurement Distance: Guess and Measure #1: 4 questions (randomly generated) Distance: Guess and Measure #2: 4 questions (randomly generated) Distance: Fractional Units: 4 questions (randomly generated)</p> <p>Section 2: Perimeter and Area of Polygons Perimeter of Various Shapes Example – 1, Example – 2, Example - 3</p>	
<p>8.2 Scale Drawings To provide practice measuring distances to the nearest foot; and to provide experiences creating a scale drawing on a grid using measurements and a given scale.</p>	<p>Understanding Measurement and Geometry Section 1: An Introduction to Measurement Measurement with a Ruler – Inches A Pencil... An Introduction Examples 1, 2 Ruler – Click on the Point: 10 questions (randomly generated) Ruler – Click and Drag: 10 questions (randomly generated) Calculating Distances – Introduction: 10 questions (randomly generated) Calculating Distances - Distances Examples 1 through 6 Scale</p>	
<p>8.3 Area To review basic concepts; to provide practice estimating the area of a polygon by counting unit squares and using a scale drawing to find area.</p> <p>8.4 What is the Area of My Skin? To demonstrate how to estimate the area of a surface having a curved boundary; and to provide practice converting from one square unit to another.</p>	<p>Understanding Measurement and Geometry Section 2: Perimeter and Area of Polygons Introduction to Area Units Estimate Example 1, Example 2, Example 3 Areas of Polygons</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
8.5 Formula for the Area of a Rectangle To guide the development and use of a formula for the area of a rectangle.	Understanding Measurement and Geometry Section 2: Perimeter and Area of Polygons Area of a Rectangle Concept Example 1, Example 2, Example 3, Example 4	
8.6 Formula for the Area of a Parallelogram To review the properties of parallelograms; and to guide the development and use of a formula for the area of a parallelogram.	Understanding Measurement and Geometry Section 2: Perimeter and Area of Polygons Area of a Parallelogram Concept Example 1, Example 2	
8.7 Formula for the Area of a Triangle To guide the development and use a formula for the area of a triangle.	Understanding Measurement and Geometry Section 2: Perimeter and Area of Polygons Area of a Triangle Concept 1, Concept 2 Example 1, Example 2	
8.8 Geographical Area Measurements To discuss how geographical areas are measured; and to provide practice using division to compare two quantities with like units.	NOT INCLUDED	
8.9 Progress Check 8 To assess students' progress on mathematical content through the end of Unit 8.		



Unit 9. Fractions, Decimals, and Percents

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>9.1 Fractions, Decimals, and Percents To guide the use of percents in describing real-life situations; and to reinforce naming equivalencies among fractions, decimals, and percents.</p>	<p>Understanding Fractions Section 4: Percent... A Special Fraction Percent Means Introduction School Example Money Example Percent Strips Concepts 1, 2, 3</p>	
<p>9.2 Converting “Easy” Fractions to Decimals and Percent To reinforce renaming fourths, fifths, and tenths as decimals and percents; and to introduce solving percent by using equivalent fractions.</p>	<p>Understanding Fractions Section 6: Percents, Fractions, Decimals Expressing a Percent as a Fraction Introduction Without Graphics Introduction With Graphics</p>	
<p>9.3 Using a Calculator to Convert Fractions to Decimals To introduce renaming and fraction as a decimal by using a calculator; and to reinforce fraction/percent equivalencies for fourths, fifths, and tenths.</p>	<p>NOT INCLUDED</p>	
<p>9.4 Using a Calculator to Rename Fractions as Percents To reinforce renaming fractions as percents using a calculator; and to introduce solving number stories involving discounts expressed as percents.</p>	<p>NOT INCLUDED</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>9.5 Conversions among Fractions, Decimals, and Percents To reinforce the use of a data table; and to reinforce renaming fractions as percents using a calculator and renaming decimals as percents.</p>	<p>Understanding Fractions Section 6: Percents, Fractions, Decimals Expressing Decimals as a Percent Examples 1, 2, 3 Summary Pattern % Nitrogen in Air Expressing Fractions as a Percent An Example Method 1 Example 1 Example 2 Method 2 Example 1 Example 2</p>	
<p>9.6 Comparing the Results of a Survey To guide the organization and tabulation of survey data; and to introduce the use of percents to compare quantities expressed as fractions with unlike denominators.</p>	<p>Understanding Graphing Data... What is it? Examples of Data Example 1... Fast Food Earnings Example 2... Infants Walk Example 3... Canada and U.S.A. Forecast Example 4... King of the Strike Out Example 5... U.S. Stake in India Example 6... Allergy Troubles A Summary: Examples</p>	
<p>9.7 Comparing Population Data To provide practice ranking and comparing data that are reported as percents and displaying ranked data by coloring maps.</p>	<p>NOT INCLUDED</p>	
<p>9.8 Multiplication of Decimals To introduce multiplication of decimals by whole numbers; and to reinforce the partial-products and lattice methods for multiplication.</p>	<p>Understanding Fractions Section 15: Multiplication and Division of Decimals Recall Basic Facts Multiply by Repeated Addition Examples 1, 2 Special Case: Multiply a Decimal by a Whole Number Example 1 with Blocks Example 2 with Blocks Multiply by Partial Products - Area Examples 1, 2, 3 with Blocks Examples 4, 5, 6 without Blocks Questions 1, 2, 3</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>9.9 Division of Decimals To introduce division of decimals by whole numbers; and to reinforce the partial-quotients division algorithm.</p>	<p>Understanding Fractions 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>	
<p>9.10 Progress Check 9 To assess students' progress on mathematical content through the end of Unit 9.</p>		

Unit 10. Reflections and Symmetry

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>10.1 Explorations with a Transparent Mirror To guide the exploration of reflections of 2-dimensional figures.</p>	<p>Understanding Graphing Section 4. Transformations In This Topic What is a Transformation? Reflections – An Introduction Flip #1, #2, #3</p>	
<p>10.2 Finding Lines of Reflection To guide the exploration of reflections; and to provide practice identifying lines of reflection.</p> <p>10.3 Properties of Reflection To guide the discovery of basic properties of reflections.</p>	<p>Understanding Graphing Section 4. Transformations Reflections Object to Image We Say, We Write Reflection Mapping Rule Examples Examples 1, 2</p>	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>10.4 Line Symmetry To guide exploration of the connection between reflections and line symmetry.</p>	<p>Understanding Graphing Section 4. Transformations Lines of Symmetry An Introduction Examples 1,2, 3, 4 Symmetry Match Puzzle -1 (randomly generated) Puzzle -2 (randomly generated)</p>	
<p>10.5 Frieze Patterns To guide the application of reflections, rotations, and translations.</p>	<p>Understanding Graphing Section 4. Transformations Translations – An Introduction Slide #1, #2, #3, #4 Reflections – An Introduction Flip #1, #2, #3 Rotation – An Introduction Turn #1, #2, #3, #4, #5 Transformation Machine Examples 1 through 5</p>	
<p>10.6 Positive and Negative Numbers To introduce addition involving negative integers.</p>	<p>Understanding Whole Numbers and Integers Section 4. The Meaning of Integers Number Sentence Factory Control Room – Length of Timer Training Room Factory Floor: 5 questions (randomly generated) Integers Around Us Temperature Helicopter Submarine Elevator Integer Line Opposite Integers Examples 1, 2</p> <p>Section 5: Adding Integers In This Topic Elevators... An Introduction to Addition Examples 1, 2, 3, 4</p>	



	Summary... Using Elevators Markers... An Introduction to Addition An Introduction to Addition Opposites Examples 1, 2, 3, 4	
10.7 Progress Check 7 To assess students' progress on mathematical content through the end of Unit 7.		

Unit 11. 3-D Shapes, Weight, Volume, and Capacity

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
11.1 Weight To review grams and ounces as units of weight; and to guide the estimation and measurement of weight in grams and ounces.	NOT INCLUDED	
11.2 Geometric Solids To review the properties of common geometric solids. 11.3 Constructing Geometric Solids To provide practice identifying geometric solids given their properties; and to guide the construction of polyhedrons.	Understanding Measurement and Geometry Section 4: Solids... Volume and Surface Area In This Topic Classifying Solids A Solid is... Recall Polygons A Polyhedron is... A Prism is... Some Special Prisms A Pyramid is... Some Special Pyramids A Cylinder is... A Cone is... Platonic Solids	
11.4 A Volume Exploration To review concepts and units of volume.	Understanding Measurement and Geometry Section 4: Solids... Volume and Surface Area Volume of a Solid Concept	
11.5 A Formula for the Volume of Rectangular Prisms To guide the development and use of a formula for finding the volume of a rectangular prism.	Understanding Measurement and Geometry Section 4: Solids... Volume and Surface Area Volume of a Prism: Example 1 Volume of a Prism: Example 2	



Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>11.6 Subtraction of Positive and Negative Numbers To review addition of positive and negative integers; and to introduce subtraction of positive and negative integers.</p>	<p>Understanding Whole Numbers and Integers Section 5: Adding Integers Going for a Walk... An Introduction to Addition Examples 1, 2, 3 Number Lines... An Introduction to Addition Examples 1, 2, 3 Summary... Using a Number Line Writing Positive Integers Examples 1, 2, 3</p> <p>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</p>	
<p>11.7 Capacity and Weight To review customary units of capacity.</p>	NOT INCLUDED	
<p>11.8 Progress Check 11 To assess students' progress on mathematical content through the end of Unit 11.</p>		



Unit 12. Rates

Title & Activity Number	Understanding Math 2008© Program/Sections/Lessons	Curriculum Lesson
<p>12.1 Introducing Rates To introduce rates; and to provide practice collecting and comparing rate data.</p> <p>12.2 Solving Rate Problems To provide practice using a rate table to record rate information; and to provide practice solving rate problems.</p> <p>12.3 Converting between Rates To provide practice checking the validity of data by converting the data to more accessibly rates.</p>	<p>Understanding Fractions Section 7: Ratios and Proportions Rate and Unit Rate Concept Examples The Best? Examples 1, 2, 3</p>	
<p>12.4 Comparison Shopping: Part 1 To introduce calculating the unit price for a product; and to provide practice comparing unit prices and identifying information needed for comparison shopping.</p>	NOT INCLUDED	
<p>12.5 Comparison Shopping: Part 2 To provide practice calculating and comparing unit prices that involve fractions of cents.</p>	NOT INCLUDED	
<p>12.6 World Tour and 50-Facts Test Wrap-Ups To reflect on this year's World Tour experiences and progress on 50-facts tests.</p>	NOT INCLUDED	
<p>12.7 Progress Check 12 To assess students' progress on mathematical content through the end of Unit 12.</p>		

