



**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

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.

**Organization of the Understanding Numeration 2008© Program**

The Understanding Numeration 2008© program consists of the following five concepts written for kindergarten through third grade:

Counting                      Operations                      Place Value                      Comparing and Ordering                      Problem Solving

Each concept in the program covers several skills. Every skill has up to four different levels of difficulty with corresponding lessons for each level. The lessons are sequenced to build an understanding of concepts. Each concept also has the following:

- 1) an interactive concept introduction, usually with a variety of graphic approaches;
- 2) a number of particular examples;
- 3) a skill test with random questions and tracking;
- 4) worksheets with visual demonstrations on how to complete each worksheet;
- 5) teaching strategies including Math Circles Overview, Flight Plan Overview, Flight Plan Roles, and Flight Plan Navigation Sheet are found on our website ([www.neufeldmath.com](http://www.neufeldmath.com)).

**Organization of the Understanding Math 2008© Programs**

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	

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](http://www.neufeldmath.com)).

Teachers may also search for specific topics using our search engine at <http://www.corr.neufeldmath.com>.



**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs**  
**With the Texas Essential Knowledge and Skills For Mathematics**  
**3<sup>rd</sup> Grade**

The TEKS have been correlated to the Understanding Numeration 2008© and Understanding Math 2008© programs. The location is listed below:

**Number, operation, and quantitative reasoning**

- |   |               |
|---|---------------|
| (1) The student uses place value to communicate about increasingly large whole numbers in verbal and written form, including money.                 | Pages 3 - 4   |
| (2) The student uses fraction names and symbols (with denominators of 12 or less) to describe fractional parts of whole objects or sets of objects. | Pages 5 - 10  |
| (3) The student adds and subtracts to solve meaningful problems involving whole numbers.  | Pages 10 - 13 |
| (4) The student recognizes and solves problems in multiplication and division situations.   | Pages 13 - 17 |
| (5) The student estimates to determine reasonable results.  | Pages 17 - 17 |

**Patterns, relationships, and algebraic thinking**

- |   |               |
|---|---------------|
| (6) The student uses patterns to solve problems.                                      | Pages 18 - 20 |
| (7) The student uses lists, tables, and charts to express patterns and relationships. | Pages 21 - 21 |

**Geometry and spatial reasoning**

- |  |               |
|--|---------------|
| (8) The student uses formal geometric vocabulary.  | Pages 22 - 23 |
| (9) The student recognizes congruence and symmetry.  | Pages 23 - 23 |
| (10) The student recognizes that a line can be used to represent numbers and fractions and their properties and relationships. | Pages 24 - 25 |

**Measurement**

- |   |               |
|---|---------------|
| (11) The student directly compares the attributes of length, area, weight/mass, and capacity, and uses comparative language to solve problems and answer questions. The student selects and uses standard units to describe length, area, capacity/volume, and weight/mass. | Pages 26 - 28 |
| (12) The student reads and writes time and measures temperature in degrees Fahrenheit to solve problems.  | Pages 28 - 29 |

**Probability and statistics**

- |  |               |
|--|---------------|
| (13) The student solves problems by collecting, organizing, displaying, and interpreting sets of data. | Pages 30 - 31 |
|--|---------------|

**Underlying processes and mathematical tools**

- |   |               |
|---|---------------|
| (14) The student applies Grade 3 mathematics to solve problems connected to everyday experiences and activities in and outside of school. | Pages 32 - 35 |
| (15) The student communicates about Grade 3 mathematics using informal language.  | Pages 36 - 37 |
| (16) The student uses logical reasoning.  | Pages 37 - 38 |

TEKS that are **not included** in the current Understanding Numeration 2008© and Understanding Math 2008© programs are noted as *not yet correlated*.

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
 With the Texas Essential Knowledge and Skills For Mathematics  
 3<sup>rd</sup> Grade**

**Texas Essential Knowledge and Skills for Mathematics  
 Correlated to Understanding Numeration 2008 © and Understanding Math 2008 ©  
 3<sup>rd</sup> Grade**

**Grade 3... Number, operation, and quantitative reasoning**

**(1) The student uses place value to communicate about increasingly large whole numbers in verbal and written form, including money. The student is expected to:**

(A) use place value to read, write (in symbols and words), and describe the value of whole numbers through 999,999;

<b>Understanding Whole Numbers and Integers 2008</b>		<b>Notes</b>
<b>Section 1: The Meaning of Whole Numbers</b>		
Seeing the Number	To Tens- Example 1 To Tens- Example 2 To Hundreds- Example 1 To Hundreds- Example 2 To Thousands- Example 1 To Thousands- Example 2 To Thousands- Example 3	
Expanded Notation	To 999- Example 1 To 999- Example 2 To 9999- Example 1 To 9999- Example 2 Write as Numerals- Example 1 Write as Numerals- Example 2 The number line	
Represent Numbers in Many Ways	Example 1 Example 2 Example 3 Example 4 Example 5	
Place Value to 999 999	Examples- Example 1 Examples- Example 2 Examples- Example 3	

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

	<p>Examples- Example 4 Examples- Example 5 The number line- Example 1 The number line- Example 2 The number line- Example 3</p>	
(B) use place value to compare and order whole numbers through 9,999; and		
<p><b>Understanding Numeration: Comparing &amp; Ordering</b> <b>Skill 4: Working with Whole Numbers &gt; , &lt; , =</b> Level A 4) Ordering... Horizontal #1 5) Ordering... Vertical #1 Do Skill Test - 10 questions (randomly generated) Level B 3) Ordering... Horizontal #2 4) Ordering... Vertical #2 Level C 1) Compare Numbers #1 Do Skill Test - 5 questions (randomly generated) Level D 1) Compare Numbers #2 Do Skill Test - 5 questions (randomly generated)</p> <p><b>Understanding Whole Numbers and Integers 2008</b> <b>Section 1: The Meaning of Whole Numbers</b> Comparing Large Numbers</p>	<p>Example 1 Example 2</p>	<p><b>Notes</b></p> <p><b>Notes</b></p>
(C) determine the value of a collection of coins and bills.		
<p><b>Understanding Numeration: Counting</b> <b>Skill 7: Counting Using Money</b> Level B 1) Pennies, Nickels, Dimes (USA/Canadian) 2) Coins - Count by 10s, 5s and 1s (USA/Canadian) Do Skill Test - 5 questions (randomly generated) Level C 1) Quarters (USA/Canadian) Do Skill Test - 5 questions (randomly generated) USA Level D 1) Dollars (USA/Canadian) Do Skill Test - 5 questions (randomly generated)</p>		<p><b>Notes</b></p>

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

**(2) The student uses fraction names and symbols (with denominators of 12 or less) to describe fractional parts of whole objects or sets of objects. The student is expected to:**

(A) construct concrete models of fractions;

<b>Understanding Fractions 2008</b>		<b>Notes</b>
<b>Section 1: The Meaning of Fractions</b>		
Pattern Blocks	Example 1 Example 2 Example 3 Example 4	
Fraction of a Pie	Example 1 Example 2	
The Grid		
Fractions of a Shape	Fraction of a Square- One Half Fraction of a Square- One Quarter Fraction of a Square- One Eighth Fraction of a Square- One Sixteenth Fraction of a Square- Three Eighths Fraction of a Hexagon- One Sixth Fraction of a Hexagon- One Third Fraction of a Hexagon- One Half Fraction of a Hexagon- Two Thirds Fraction of a Hexagon- Five Sixths Fraction of an Octagon- One Eighth Fraction of an Octagon- One Quarter Fraction of an Octagon- One Half Fraction of an Octagon- Five Eighths Fraction of an Octagon- Three Fourths	
Fraction of Odd Shapes	Fraction of a Shape: 3 Choices Example 1 Example 2	

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

(B) compare fractional parts of whole objects or sets of objects in a problem situation using concrete models;		<b>Notes</b>
<p><b>Understanding Numeration: Comparing &amp; Ordering</b></p> <p><b>Skill 7: Compare Fractions</b>            Level D 1) Compare Fractions            Do Skill Test - 5 questions (randomly generated)</p> <p><b>Understanding Fractions 2008</b>  <b>Section 1: The Meaning of Fractions</b>            Comparison of Fractions</p> <p style="margin-left: 150px;">The Symbol- Greater Than - Ex 1            The Symbol- Greater Than - Ex 2            The Symbol- Less Than - Ex 1            The Symbol- Less Than - Ex 2            The Symbol- Greater and Less Than - Ex 1            The Symbol- Greater and Less Than - Ex 2            Concept 1 - Fractions Strips            Concept 2- Example 1            Concept 2- Example 2            Concept 2- Example 3            Concept 2- Example 4</p> <p>Word Problems</p> <p style="margin-left: 150px;">Fruit Basket- Question 1            Fruit Basket- Question 2            Fruit Basket- Question 3            School Supplies</p>		<b>Notes</b>
<p><b>Understanding Fractions 2008</b>  <b>Section 3: Equivalent Fractions</b>            Comparison of Fractions</p>		<b>Notes</b>
(C) use fraction names and symbols to describe fractional parts of whole objects or sets of objects; and		<b>Notes</b>
<p><b>Understanding Numeration: Counting</b></p> <p><b>Skill 9: Introduce Fractions... Equal Parts</b>            Level B 1) Two Equal Parts                  2) Three Equal Parts                  3) Four Equal Parts            Do Skill Test - 10 questions (randomly generated)</p>		<b>Notes</b>

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs**  
**With the Texas Essential Knowledge and Skills For Mathematics**  
**3<sup>rd</sup> Grade**

**Skill 10: Introduce Fractions... Part of a Whole**

- Level B 1) One Half  
 2) One Third  
 3) One Quarter  
 Do Skill Test - 10 questions (randomly generated)

**Skill 11: Introduce Common Fractions... Parts of a Whole**

- Level B 1) One Half of a Shape  
 2) Two Thirds of a Shape  
 3) Three Quarters of a Shape  
 4) Cut in Half  
 5) Fifths to Tenths #1  
 Do Skill Test - 10 questions (randomly generated)
- Level C 1) Fifths to Tenths #2  
 2) Write the Fraction #1  
 3) Write the Fraction #2  
 Do Skill Test - 5 questions (randomly generated)

**Skill 12: Introduce Fraction of a Set**

- Level C 1) Fraction of a set  
 Do Skill Test - 10 questions (randomly generated)

**Understanding Fractions 2008**

**Section 1: The Meaning of Fractions**

Fractions in the News

Introduction.. Think, Write, Say

Circle  
 Squares  
 Balls  
 Examples

Parts of a Fraction

Part of a Whole

One Half  
 One Third  
 One Quarter  
 Two Fifths  
 Three Eighths  
 Seven Tens

Parts of a Whole

Write the Fraction

Question 1

Notes

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
 With the Texas Essential Knowledge and Skills For Mathematics  
 3<sup>rd</sup> Grade**

	Question 2
	Question 3
	Question 4
Fraction of a Set	Example 1 - Marbles
	Example 2 - Candies
	Example 3 - Birthday Cake
Fraction of a Gas Tank	
Fraction Strips	Concept 1
	Concept 2
	Concept 3
	Concept 4
Fractions on a Number Line	Halves
	Thirds
	Quarters
	Summary
	Place Them- Example 1
	Place Them- Example 2
	Place Them- Example 3
	Place Them- Example 4
Pattern Blocks	Example 1
	Example 2
	Example 3
	Example 4
Fraction of a Pie	Example 1
	Example 2
The Clock	
Wholes and Parts	Fractions of a Shape- Task 1 - Quarters of a Shape
	Fractions of a Shape- Task 2 - Thirds of a Shape
	Fractions of a Shape- Task 3 - Fifths of a Shape
	Fractions of a Shape- Task 4 - Sixths of a Shape
	Fractions of a Shape- Task 5 - Eighths of a Shape
	Fractions of a Set- Task 6 - Tenths of a Set
	Fractions of a Set- Task 7 - Thirds of a Set
	Fractions of a Set- Task 8 - Halves of a Set
	Fractions of a Set- Task 9 - Fourths of a Set
The Grid	
Fractions of a Shape	Fraction of a Square- One Half

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

<p>Fraction of Odd Shapes</p>	<p>Fraction of a Square- One Quarter            Fraction of a Square- One Eighth            Fraction of a Square- One Sixteenth            Fraction of a Square- Three Eighths            Fraction of a Hexagon- One Sixth            Fraction of a Hexagon- One Third            Fraction of a Hexagon- One Half            Fraction of a Hexagon- Two Thirds            Fraction of a Hexagon- Five Sixths            Fraction of a Octagon- One Eighth            Fraction of a Octagon- One Quarter            Fraction of a Octagon- One Half            Fraction of a Octagon- Five Eighths            Fraction of a Octagon- Three Fourths            Fraction of a Shape: 3 Choices            Example 1            Example 2</p>	
<p>(D) construct concrete models of equivalent fractions for fractional parts of whole objects.</p>		
<p><b>Understanding Fractions 2008</b>  <b>Section 3: Equivalent Fractions</b>            Introduction            Pattern Blocks            Fraction Strips            The Clock            On a Square Grid</p>	<p>Square            Triangle            Hexagon 1            Hexagon 2            Concept 1            Concept 2            Introduction 1            Introduction 2            Examples (randomly generated)            Example 1            Example 2            Example 3            Example 4            Example 5</p>	<p align="right"><b>Notes</b></p>

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs**  
**With the Texas Essential Knowledge and Skills For Mathematics**  
**3<sup>rd</sup> Grade**

On a Dot Grid	Example 1 Example 2 Example 3 Example 4
An Explanation With Sets	Case 1 Case 2
Equivalent Fractions on a Number Line	
Memory Game	Easy Game

**(3) The student adds and subtracts to solve meaningful problems involving whole numbers. The student is expected to:**

(A) model addition and subtraction using pictures, words, and numbers; and

<b>Understanding Numeration: Operations</b>	<b>Notes</b>
<b>Skill 14: Add 2 Digit Numbers... Concretely</b> Level C 1) Addition Without Regrouping 2) Addition With Regrouping Do Skill Test - 5 questions (randomly generated)	
<b>Skill 15: Add 2 Digit Numbers... Abstractly</b> Level C 1) Addition Without Regrouping 2) Addition With Regrouping #1 3) Addition With Regrouping #2 Do Skill Test - 10 questions (randomly generated)	
<b>Skill 16: Add 3 Digit Numbers... Concretely</b> Level D 1) Addition Without Regrouping 2) Addition With Regrouping 3) Addition With Regrouping - Any Column Do Skill Test - 10 questions (randomly generated)	

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

**Skill 17: Add 3 Digit Numbers... Abstractly**

- Level D 1) Addition Without Regrouping  
 2) Addition With Regrouping #1  
 3) Addition With Regrouping #2  
 4) Addition With Regrouping #3  
 Do Skill Test - 10 questions (randomly generated)

**Skill 21: Subtract 2 Digit Numbers... Concretely**

- Level C 1) Subtraction Without Regrouping  
 2) Subtraction With Regrouping  
 Do Skill Test - 5 questions (randomly generated)

**Skill 22: Subtract 2 Digit Numbers... Abstractly**

- Level C 1) Subtraction Without Regrouping  
 2) Subtraction With Regrouping  
 Do Skill Test - 5 questions (randomly generated)

**Skill 23: Subtract 3 Digit Numbers... Concretely**

- Level D 1) Subtraction Without Regrouping  
 2) Subtraction With Regrouping #1  
 3) Subtraction With Regrouping #2  
 4) Subtraction With Regrouping #3  
 5) Subtract With Regrouping - Any Column  
 Do Skill Test - 10 questions (randomly generated)

**Skill 24: Subtract 3 Digit Numbers... Abstractly**

- Level D 1) Subtraction Without Regrouping  
 2) Subtraction With Regrouping #1  
 3) Subtraction With Regrouping #2  
 4) Subtraction With Regrouping #3  
 5) Subtraction With Regrouping #4  
 Do Skill Test - 10 questions (randomly generated)

**Understanding Whole Numbers and Integers 2008**

Notes

**Section 2 : Adding and Subtracting Whole Numbers**

- |                     |                            |
|---------------------|----------------------------|
| Add... Partial Sums | Example 1 - With Blocks    |
|                     | Example 2 - With Blocks    |
|                     | Example 3 - Without Blocks |
|                     | Example 4 - Without Blocks |

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
 With the Texas Essential Knowledge and Skills For Mathematics  
 3<sup>rd</sup> Grade**

Add... Trade First	Example 5 - Without Blocks Example 6 - Without Blocks Example 1 - With Blocks Example 2 - With Blocks Example 3 - Without Blocks Example 4 - Without Blocks Example 5 - Without Blocks Example 6 - Without Blocks
Add... Right to Left	Example 1 - With Blocks Example 2 - With Blocks Example 3 - Without Blocks Example 4 - Without Blocks Example 5 - Without Blocks Example 6 - Without Blocks
Subtract... Right to Left	Example 1 - With Blocks Example 2 - With Blocks Example 3 - Without Blocks Example 4 - Without Blocks Example 5 - Without Blocks Example 6 - Without Blocks
Subtract... Trade First	Example 1 - With Blocks Example 2 - With Blocks Example 3 - Without Blocks Example 4 - Without Blocks Example 5 - Without Blocks Example 6 - Without Blocks
(B) select addition or subtraction and use the operation to solve problems involving whole numbers through 999.	
<b>Understanding Numeration: Problem Solving</b>	<b>Notes</b>
<b>Skill 7: Birthday Party</b> Level A,B,C,D 1) Birthday Party	
<b>Skill 8: Brick Path</b> Level A,B,C,D 1) Brick Path	

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

<p><b>Skill 10: The Track Team</b> Level A,B,C,D 1) The Track Team</p> <p><b>Understanding Whole Numbers and Integers 2008</b> <b>Section 2 : Adding and Subtracting Whole Numbers</b> Whole Numbers Around Us</p> <p>Example 2 - quarters Example 3 - baseball cards Example 4 - dollars Example 7 - coins Example 8 - jelly beans Example 9 - photographs Example 10 - minutes walking</p>	<p align="center"><b>Notes</b></p>
--	------------------------------------

**(4) The student recognizes and solves problems in multiplication and division situations. The student is expected to:**

<p>(A) learn and apply multiplication facts through 12 by 12 using concrete models and objects;</p>	
<p><b>Understanding Numeration: Operations</b></p> <p><b>Skill 27: Introduce Multiplication Facts... 2, 3, 4, 5</b> Level C 1) Multiplication: Groups of 2 2) Multiplication: Groups of 3 3) Multiplication: Groups of 4 4) Multiplication: Groups of 5 Do Skill Test - 5 questions (randomly generated)</p> <p><b>Skill 28: Introduce Multiplication by 1 and by 0</b> Level C 1) Multiplication: Groups of 1 2) Multiplication: Groups of 0 Do Skill Test - 5 questions (randomly generated)</p> <p><b>Skill 29: Introduce Multiplication Facts... 6, 7, 8, 9</b> Level D 1) Multiplication: Groups of 6 2) Multiplication: Groups of 7</p>	<p align="center"><b>Notes</b></p>

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

- 3) Multiplication: Groups of 8
- 4) Multiplication: Groups of 9
- Do Skill Test - 10 questions (randomly generated)

**Skill 30: Patterns in Multiplication**

- Level C 1)  $\times$  table - Groups of 2
- 2)  $\times$  table - Groups of 3
- 3)  $\times$  table - Groups of 4
- 4)  $\times$  table - Groups of 5
- 5)  $\times$  table - Groups of 5 to 0
- Do Skill Test - 10 questions (randomly generated)
- Level D 1)  $\times$  table - Groups of 6
- 2)  $\times$  table - Groups of 7
- 3)  $\times$  table - Groups of 8
- 4)  $\times$  table - Groups of 9
- 5)  $\times$  table - Groups of 10
- Do Skill Test - 10 questions (randomly generated)

**Skill 31: Introduction to Arrays**

- Level C 1) Introduction to Arrays
- 2) Build Arrays
- 3) Introduction to Arrays with Multiplication
- 4) Build Arrays with Multiplication
- Do Skill Test - 10 questions (randomly generated)

**Skill 33: Note Patterns in a 10 $\times$ 10 Multiplication Table**

- Level D 1)  $\times$  table - Patterns in Rows
- 2)  $\times$  table - Patterns in Columns
- 3)  $\times$  table - Other Patterns
- 4)  $\times$  table - User Picks
- 5)  $\times$  table - Computer Picks
- Do Skill Test - 10 questions (randomly generated)

**Understanding Whole Numbers and Integers 2008**

**Section 3: Multiplying and Dividing Whole Numbers**

- Multiplication Facts
- Groups of 6
- Groups of 7

Notes

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

Commutative Property	Groups of 8 Groups of 9 $5 \times 1 = 1 \times 5$ $5 \times 2 = 2 \times 5$ $5 \times 3 = 3 \times 5$ $4 \times 3 = 3 \times 4$	
The 10 x 10 Multiplication Table	User Picks Computer Picks	
The 12 x 12 Multiplication Table Multiply by a Single Digit Multiplier	Repeated Addition- Example 1 - With Blocks Repeated Addition- Example 2 - With Blocks Partial Products - Area- Example 1 - With Blocks Partial Products - Area- Example 2 - With Blocks Partial Products - Area- Example 3 - With Blocks	
<b>Understanding Algebra 2008</b> <b>Section 3: Patterns, Patterns, Patterns</b> Factor Pairs in Arrays	Factors of 8 Factors of 12 Factors of 5	<b>Notes</b>
(B) solve and record multiplication problems (up to two digits times one digit); and		
<b>Understanding Whole Numbers and Integers 2008</b> <b>Section 3: Multiplying and Dividing Whole Numbers</b> Multiply by a Single Digit Multiplier	Repeated Addition- Example 1 - With Blocks Repeated Addition- Example 2 - With Blocks Repeated Addition- Example 3 - Without Blocks Partial Products - Area- Example 1 - With Blocks Partial Products - Area- Example 2 - With Blocks Partial Products - Area- Example 3 - With Blocks Partial Products - Area- Example 4 - Without Blocks Partial Products - Area- Example 5 - Without Blocks Partial Products - Area- Example 6 - Without Blocks Partial Products - Area- Question 1 Partial Products - Area- Question 2	<b>Notes</b>

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

<p>Whole Numbers Around Us</p>	<p>Partial Products - Area- Question 3 The Distributive Method- Example 1 The Distributive Method- Example 2 The Distributive Method- Example 3 The Lattice Method- Example 1 The Lattice Method- Example 2 The Lattice Method- Example 3 The Lattice Method- Question 1 The Lattice Method- Question 2 The Lattice Method- Question 3 The Standard Method- Example 1 The Standard Method- Example 2 The Standard Method- Example 3 The Standard Method- Question 1 The Standard Method- Question 2 The Standard Method- Question 3 Example 1 - Oranges Example 2 - Bananas Example 3 - Cycling Example 7 - Apples Example 9 - Sit-ups</p>
<p>(C) use models to solve division problems and use number sentences to record the solutions.</p>	
<p><b>Understanding Numeration: Operations</b> <b>Skill 35: Introduction Division Facts... 2, 3, 4, 5</b> Level C 1) Division -Groups of 2 2) Division -Groups of 3 3) Division -Groups of 4 4) Division -Groups of 5 Do Skill Test - 10 questions (randomly generated)</p> <p><b>Skill 36: Introduction Division Facts... 6, 7, 8, 9</b> Level D 1) Division -Groups of 6 2) Division -Groups of 7 3) Division -Groups of 8</p>	<p align="right"><b>Notes</b></p>

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
 With the Texas Essential Knowledge and Skills For Mathematics  
 3<sup>rd</sup> Grade**

4) Division -Groups of 9  
 Do Skill Test - 10 questions (randomly generated)

**Understanding Whole Numbers and Integers 2008**

**Notes**

**Section 3: Multiplying and Dividing Whole Numbers**

Whole Numbers Around Us

Example 6 - Running

Example 10 - Taxi

**Understanding Whole Numbers and Integers 2008**

**Notes**

**Section 8: Dividing Integers**

Division to Multiplication

**(5) The student estimates to determine reasonable results. The student is expected to:**

(A) round whole numbers to the nearest ten or hundred to approximate reasonable results in problem situations; and

**Understanding Whole Numbers and Integers 2008**

**Notes**

**Section 1: The Meaning of Whole Numbers**

Rounding Large Numbers

Example 1

Example 2

Example 3

Example 4

Example 5

(B) use strategies including rounding and compatible numbers to estimate solutions to addition and subtraction problems.

Not yet correlated

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
 With the Texas Essential Knowledge and Skills For Mathematics  
 3<sup>rd</sup> Grade**

**Grade 3... Patterns, relationships, and algebraic thinking**

**(6) The student uses patterns to solve problems. The student is expected to:**

(A) identify and extend whole-number and geometric patterns to make predictions and solve problems;

**Understanding Algebra 2008**

**Section 3: Patterns, Patterns, Patterns**

Introduction... Math is Patterns

Geometric Patterns

Example 1

Example 2

Example 3

Example 4

Example 8

Number Patterns

Example 1

Example 2

Example 3

Example 4

Example 5

Number and Geometric Patterns

Example 1

Example 2

**Notes**

(B) identify patterns in multiplication facts using concrete objects, pictorial models, or technology; and

**Understanding Numeration: Operations**

**Skill 30: Patterns in Multiplication**

Level C 1)  $\times$  table - Groups of 2

2)  $\times$  table - Groups of 3

3)  $\times$  table - Groups of 4

4)  $\times$  table - Groups of 5

5)  $\times$  table - Groups of 5 to 0

Do Skill Test - 10 questions (randomly generated)

Level D 1)  $\times$  table - Groups of 6

2)  $\times$  table - Groups of 7

3)  $\times$  table - Groups of 8

**Notes**

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs**  
**With the Texas Essential Knowledge and Skills For Mathematics**  
**3<sup>rd</sup> Grade**

4) x table - Groups of 9  
 5) x table - Groups of 10  
 Do Skill Test - 10 questions (randomly generated)

**Skill 33: Note Patterns in a 10x10 Multiplication Table**

Level D 1) x table - Patterns in Rows  
 2) x table - Patterns in Columns  
 3) x table - Other Patterns  
 4) x table - User Picks  
 5) x table - Computer Picks  
 Do Skill Test - 10 questions (randomly generated)

**Understanding Whole Numbers and Integers 2008**

**Notes**

**Section 3: Multiplying and Dividing Whole Numbers**

Multiplication Facts	Groups of 6 Groups of 7 Groups of 8 Groups of 9
Commutative Property	$5 \times 1 = 1 \times 5$ $5 \times 2 = 2 \times 5$ $5 \times 3 = 3 \times 5$ $4 \times 3 = 3 \times 4$
Patterns in Multiplication	Patterns in Multiplication by 10
Multiply by a Single Digit Multiplier	Repeated Addition- Example 1 - With Blocks Repeated Addition- Example 2 - With Blocks Partial Products - Area- Example 1 - With Blocks Partial Products - Area- Example 2 - With Blocks Partial Products - Area- Example 3 - With Blocks

(C) identify patterns in related multiplication and division sentences (fact families) such as  $2 \times 3 = 6$ ,  $3 \times 2 = 6$ ,  $6 \div 2 = 3$ ,  $6 \div 3 = 2$ .

**Understanding Numeration: Operations**

**Notes**

**Skill 32: Demonstrate the Commutative Property**

Level C 1) Multiplication - Any Order  
 Do Skill Test - 5 questions (randomly generated)

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
 With the Texas Essential Knowledge and Skills For Mathematics  
 3<sup>rd</sup> Grade**

<b>Understanding Whole Numbers and Integers 2008</b>	<b>Notes</b>
<b>Section 3: Multiplying and Dividing Whole Numbers</b>	
Multiplication Facts	Groups of 6
	Groups of 7
	Groups of 8
	Groups of 9
Commutative Property	$5 \times 1 = 1 \times 5$
	$5 \times 2 = 2 \times 5$
	$5 \times 3 = 3 \times 5$
	$4 \times 3 = 3 \times 4$
Patterns in Multiplication	Patterns in Multiplication by 10
Multiply by a Single Digit Multiplier	Repeated Addition- Example 1 - With Blocks
	Repeated Addition- Example 2 - With Blocks
<b>Understanding Whole Numbers and Integers 2008</b>	<b>Notes</b>
<b>Section 7: Multiplying Integers</b>	
Multiplication is...	Example 1
	Example 3
<b>Understanding Whole Numbers and Integers 2008</b>	<b>Notes</b>
<b>Section 8: Dividing Integers</b>	
Division to Multiplication	
The Division Table	Instructions
	Patterns
<b>Understanding Algebra 2008</b>	<b>Notes</b>
<b>Section 3: Patterns, Patterns, Patterns</b>	
Factor Pairs in Arrays	Factors of 8
	Factors of 12
	Factors of 5



**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs**  
**With the Texas Essential Knowledge and Skills For Mathematics**  
**3<sup>rd</sup> Grade**

**Grade 3... Geometry and spatial reasoning**

**(8) The student uses formal geometric vocabulary. The student is expected to**

identify, classify, and describe two- and three-dimensional geometric figures by their attributes. The student compares two- dimensional figures, three-dimensional figures, or both by their attributes using formal geometry vocabulary.

<p><b>Understanding Numeration: Counting</b></p> <p><b>Skill 6: Recognize and Count Solids</b></p> <p>Level B 1) Counting Solids #1        Do Skill Test - 5 questions (randomly generated)</p> <p>Level C 1) Counting Solids #2        Do Skill Test - 5 questions (randomly generated)</p> <p><b>Skill 15: Recognize and Count Two-Dimensional Figures</b></p> <p>Level B 1) Counting 2-D Figures #1        Do Skill Test - 5 questions (randomly generated)</p> <p>Level C 1) Counting 2-D Figures #2        Do Skill Test - 5 questions (randomly generated)</p>	<p><b>Notes</b></p>
<p><b>Understanding Measurement and Geometry 2008</b></p> <p><b>Section 2: Perimeter and Area of Polygons</b></p> <p>Polygons... What are They?</p> <p style="padding-left: 150px;">Concept</p> <p style="padding-left: 150px;">A Triangle is</p> <p style="padding-left: 150px;">A Quadrilateral is</p> <p style="padding-left: 150px;">A Pentagon is</p> <p style="padding-left: 150px;">A Hexagon is</p> <p style="padding-left: 150px;">An Octagon is</p> <p style="padding-left: 150px;">Classify Polygons</p> <p>Classify Polygons with Venn Diagrams</p>	<p><b>Notes</b></p>
<p><b>Understanding Measurement and Geometry 2008</b></p> <p><b>Section 4: Solids.. Volume and Surface Area</b></p> <p>Classifying Solids</p> <p style="padding-left: 150px;">A Solid is...</p> <p style="padding-left: 150px;">Recall Polygons</p> <p style="padding-left: 150px;">A Polyhedron is...</p>	<p><b>Notes</b></p>

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

	<p>A Prism is... Some Special Prisms A Pyramid is... Some Special Pyramids A Cylinder is... A Cone is...</p>
<p><b>(9) The student recognizes congruence and symmetry. The student is expected to:</b></p>	
<p>(A) identify congruent two-dimensional figures;</p>	
<p><b>Understanding Graphing 2008</b> <b>Section 4: Transformations</b> What is a Transformation? Introduction to Common Transformations</p>	<p align="right"><b>Notes</b></p>
<p>(B) create two-dimensional figures with lines of symmetry using concrete models and technology; and</p>	
<p>Not yet correlated</p>	
<p>(C) identify lines of symmetry in two-dimensional geometric figures.</p>	
<p><b>Understanding Graphing 2008</b> <b>Section 4: Transformations</b> Lines of Symmetry  Symmetry Match</p>	<p align="right"><b>Notes</b></p> <p>An Introduction Example 1 Example 2 Example 3 Example 4 Puzzle -1 (randomly generated) Puzzle -2 (randomly generated)</p>

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

**(10) The student recognizes that a line can be used to represent numbers and fractions and their properties and relationships. The student is expected to**

locate and name points on a number line using whole numbers and fractions, including halves and fourths.

**Understanding Numeration: Counting**

**Notes**

**Skill 1: Reading and Printing Numerals**

- Level A 4) Building a Numberline
- 5) Building a Vertical Numberline

**Skill 3: 1 to 1 Correspondence of #s to Objects**

- Level A 1) Keep Track by Marking
- Do Skill Test - 5 questions (randomly generated)

**Understanding Numeration: Comparing & Ordering**

**Notes**

**Skill 1: Locate Numbers on a Numberline**

- Level A 1) Find One Missing Number
- 2) Find two Missing Numbers
- Do Skill Test - 5 questions (randomly generated)

**Understanding Whole Numbers and Integers 2008**

**Notes**

**Section 1: The Meaning of Whole Numbers**

- |                        |                            |
|------------------------|----------------------------|
| Expanded Notation      | The number line            |
| Place Value to 999 999 | The number line- Example 1 |
|                        | The number line- Example 2 |
|                        | The number line- Example 3 |

**Understanding Fractions 2008**

**Notes**

**Section 1: The Meaning of Fractions**

- |                            |          |
|----------------------------|----------|
| Fractions on a Number Line | Halves   |
|                            | Thirds   |
|                            | Quarters |
|                            | Summary  |

Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade

Estimation on the number line

Place Them- Example 1  
Place Them- Example 2  
Place Them- Example 3  
10 questions (randomly generated)

**Understanding Fractions 2008**  
**Section 5: Introduction to Decimals**  
Introduction to Decimals

Decimals on a number line- Example 1  
Decimals on a number line- Example 2  
Decimals on a number line- Example 3  
Decimals on a number line- Example 4  
Decimals on a number line- Example 5

**Notes**

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

**Grade 3... Measurement**

**(11) The student directly compares the attributes of length, area, weight/mass, and capacity, and uses comparative language to solve problems and answer questions. The student selects and uses standard units to describe length, area, capacity/volume, and weight/mass. The student is expected to:**

(A) use linear measurement tools to estimate and measure lengths using standard units;

**Understanding Measurement and Geometry 2008**

**Notes**

**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)

Distance: Fractional Units

4 questions (randomly generated)

Measurement with a Ruler - Centimeters

A Pencil... An Introduction- Example 1

A Pencil... An Introduction- 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- Example 1

Calculating Distances - Distances- Example 2

Calculating Distances - Distances- Example 3

Calculating Distances - Distances- Example 4

Calculating Distances - Distances- Example 5

Calculating Distances - Distances- Example 6

Measurement with a Ruler - Inches

A Pencil... An Introduction- Example 1

A Pencil... An Introduction- 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- Example 1

Calculating Distances - Distances- Example 2

Calculating Distances - Distances- Example 3

Calculating Distances - Distances- Example 4

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

	<p>Calculating Distances - Distances- Example 5 Calculating Distances - Distances- Example 6</p>	
(B) use standard units to find the perimeter of a shape;		
<p><b>Understanding Numeration: Operations</b> <b>Skill 40: Finding the Perimeter of a Shape</b> Level C 1) Perimeter of a Rectangle Do Skill Test - 5 questions (randomly generated) Level D 2) Perimeter of a 2D Shape Do Skill Test - 5 questions (randomly generated)</p> <p><b>Understanding Measurement and Geometry 2008</b> <b>Section 2: Perimeter and Area of Polygons</b> Walk Around a Polygon</p>	<p>Joan Walks Perimeter of Various Shapes- Example - 1 Perimeter of Various Shapes- Example - 2 Perimeter of Various Shapes- Example - 3 Length of the Metal Strip Find the Perimeter - 3 Examples</p>	<p align="right"><b>Notes</b></p> <p align="right"><b>Notes</b></p>
(C) use concrete and pictorial models of square units to determine the area of two-dimensional surfaces;		
<p><b>Understanding Numeration: Operations</b> <b>Skill 41: Finding the Area of a Shape</b> Level D 1) Area of a Shaded Region #1 2) Area of a Shaded Region #2 Do Skill Test - 5 questions (randomly generated)</p> <p><b>Understanding Measurement and Geometry 2008</b> <b>Section 2: Perimeter and Area of Polygons</b> Introduction to Area</p>	<p>Units Estimate- Example 1 Estimate- Example 2 Estimate- Example 3</p>	<p align="right"><b>Notes</b></p> <p align="right"><b>Notes</b></p>

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

(D) identify concrete models that approximate standard units of weight/mass and use them to measure weight/mass;	
Not yet correlated	
(E) identify concrete models that approximate standard units for capacity and use them to measure capacity; and	
Not yet correlated	
(F) use concrete models that approximate cubic units to determine the volume of a given container or other three-dimensional geometric figure.	
Not yet correlated	
<b>(12) The student reads and writes time and measures temperature in degrees Fahrenheit to solve problems. The student is expected to:</b>	
(A) use a thermometer to measure temperature; and	
<b>Understanding Numeration: Comparing &amp; Ordering</b> <b>Skill 15: Reading and Comparing Temperatures</b> Level C 1) Fahrenheit and Celsius temperatures 2) Compare Temperatures in a Day Do Skill Test - 5 questions (randomly generated)	<b>Notes</b>
(B) tell and write time shown on analog and digital clocks.	
<b>Understanding Numeration: Comparing &amp; Ordering</b> <b>Skill 9: Understand Measurement of Time</b> Level B 1) The Clock - An Introduction 2) Times to the Hour 3) Analog and Digital 4) Times to the Half Hour Do Skill Test - 10 questions (randomly generated) Level C 1) Times to Five Minutes Do Skill Test - 5 questions (randomly generated) Level D 1) Times to the Minute Do Skill Test - 5 questions (randomly generated)	<b>Notes</b>

Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade

**Skill 10: Describe Elapsed Time... Hours, 5 Minutes**

- Level C 1) Elapsed Time in Hours...#1  
2) Elapsed Time in Hours...#2  
Do Skill Test - 5 questions (randomly generated)

- Level D 1) Elapsed Time - 5 Minutes... #1  
2) Elapsed Time - 5 Minutes... #2  
3) Times Goes By - Analog  
4) Times Goes By - Digital  
Do Skill Test - 10 questions (randomly generated)

**Skill 11: Describe Elapsed Time... Minutes**

- Level D 1) Elapsed Time - Minutes... #1  
2) Elapsed Time - Minutes... #2  
Do Skill Test - 5 questions (randomly generated)

**Skill 12: Describe Back in Time... Hours, 5 Minutes**

- Level C 1) Back in Time in Hours... #1  
2) Back in Time in Hours... #2  
Do Skill Test - 10 questions (randomly generated)
- Level D 1) Back in Time - 5 Minutes... #1  
2) Back in Time - 5 Minutes... #2  
3) Early and Late  
Do Skill Test - 5 questions (randomly generated)

**Skill 13: Describe Back in Time... Minutes**

- Level D 1) Elapsed Time - Minutes... #1  
2) Elapsed Time - Minutes... #2  
Do Skill Test - 5 questions (randomly generated)

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

**Grade 3... Probability and statistics**

**(13) The student solves problems by collecting, organizing, displaying, and interpreting sets of data. The student is expected to:**

(A) collect, organize, record, and display data in pictographs and bar graphs where each picture or cell might represent more than one piece of data;

**Understanding Numeration: Operations**

**Notes**

**Skill 39: Given Graph... Perform Operations**

- Level C 1) Operations with Tally Charts
- 2) Operations with Pictographs
- 3) Operations with Bar Graphs
- Do Skill Test - 10 questions (randomly generated)

**Understanding Numeration: Problem Solving**

**Notes**

**Skill 5: Make a Graph**

- Level A,B,C,D 1) Classroom Shoes
- 2) Animals

**Understanding Graphing 2008**

**Notes**

**Section 1: Reading And Sketching Graphs**

- Graphs With a Scale
- Example 1... Wins in Soccer
- Example 2... Books and Days
- Example 3... The Travel Log

**Understanding Graphing 2008**

**Notes**

**Section 2: Statistics**

- An Introduction
- Tally Chart
- Pictograph #1
- Pictograph #2
- Bar Graph #1
- Bar Graph #2

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

(B) interpret information from pictographs and bar graphs; and		
<b>Understanding Numeration: Operations</b>		<b>Notes</b>
<b>Skill 39: Given Graph... Perform Operations</b>		
Level C 1) Operations with Tally Charts		
2) Operations with Pictographs		
3) Operations with Bar Graphs		
Do Skill Test - 10 questions (randomly generated)		
<b>Understanding Numeration: Problem Solving</b>		<b>Notes</b>
<b>Skill 5: Make a Graph</b>		
Level A,B,C,D 1) Classroom Shoes		
2) Animals		
<b>Understanding Graphing 2008</b>		<b>Notes</b>
<b>Section 1: Reading And Sketching Graphs</b>		
Graphs With a Scale	Example 1... Wins in Soccer	
	Example 2... Books and Days	
	Example 3... The Travel Log	
<b>Understanding Graphing 2008</b>		<b>Notes</b>
<b>Section 2: Statistics</b>		
An Introduction	Tally Chart	
	Pictograph #1	
	Pictograph #2	
	Bar Graph #1	
	Bar Graph #2	
Presenting Data	Bar Graph- Example 1... Energy	
(C) use data to describe events as more likely than, less likely than, or equally likely as.		
<b>Understanding Probability 2008</b>		<b>Notes</b>
<b>Section 1: Introduction to Probability</b>		
The Language of Chance		
Impossible to Certain	Activity 1	
	Activity 2	
Probability Lines	Line 1	
	Line 2	

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
 With the Texas Essential Knowledge and Skills For Mathematics  
 3<sup>rd</sup> Grade**

**Grade 3... Underlying processes and mathematical tools**

**(14) The student applies Grade 3 mathematics to solve problems connected to everyday experiences and activities in and outside of school. The student is expected to:**

(A) identify the mathematics in everyday situations;

**Identifying mathematics in everyday situations is embedded in Understanding Numeration 2008© and Understanding Math 2008©. The programs emphasize understanding, learning from the concrete to the abstract, and thinking and doing rather than memorizing by rote. A mistake is an opportunity to learn.**

The following are some examples:

**Understanding Numeration: Problem Solving**

Notes

**Skill 2: Find a Pattern**

Level A,B,C,D 1) Johnny's Pennies

**Skill 6: Guess and Check**

Level A,B,C,D 2) The Gravy Spill

**Skill 7: Birthday Party**

Level A,B,C,D 1) Birthday Party

**Understanding Measurement and Geometry 2008**

Notes

**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)
Measurement with a Ruler - Centimeters	A Pencil... An Introduction- Example 1 Ruler - Click on the Point- 10 questions (randomly generated)

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

(B) solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;	
<b>Solving problems with guidance that incorporates the processes of understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness is embedded in Understanding Numeration 2008© and Understanding Math 2008©. The programs emphasize understanding, learning from the concrete to the abstract, and thinking and doing rather than memorizing by rote. A mistake is an opportunity to learn.</b>	
The following are some examples:	
<b>Understanding Numeration: Problem Solving</b>	<b>Notes</b>
<b>Skill 9: Step Up</b> Level A,B,C,D 1) Step Up	
<b>Skill 10: The Track Team</b> Level A,B,C,D 1) The Track Team	
<b>Understanding Whole Numbers and Integers 2008</b>	<b>Notes</b>
<b>Section 3: Multiplying and Dividing Whole Numbers</b>	
Multiply by a Single Digit Multiplier	Repeated Addition- Example 1 - With Blocks Partial Products - Area- Example 1 - With Blocks The Distributive Method- Example 1 The Lattice Method- Example 1 The Standard Method- Example 1
Whole Numbers Around Us	Example 3 - Cycling Example 7 - Apples
(C) select or develop an appropriate problem-solving plan or strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem; and	
<b>Understanding Numeration: Problem Solving</b>	<b>Notes</b>
<b>Skill 1: Draw a Picture</b> Level A,B,C,D 1) Eating Apples 2) A Trip To School	
<b>Skill 2: Find a Pattern</b> Level A,B,C,D 1) Johnny's Pennies 2) Toy Animals	

Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade

**Skill 3: Number Sentence**

- Level A,B,C,D 1) Oranges
- 2) Bill's Ball

**Skill 4: Make a Table**

- Level A,B,C,D 1) Johnny's Pennies
- 2) Muffins

**Skill 5: Make a Graph**

- Level A,B,C,D 1) Classroom Shoes
- 2) Animals

**Skill 6: Guess and Check**

- Level A,B,C,D 1) The Camp
- 2) The Gravy Spill

**Skill 8: Brick Path**

- Level A,B,C,D 1) Brick Path

**Skill 9: Step Up**

- Level A,B,C,D 1) Step Up

(D) use tools such as real objects, manipulatives, and technology to solve problems.

Using tools such as real objects, manipulatives, and technology to solve problems is embedded in Understanding Numeration 2008© and Understanding Math 2008©. The programs emphasize understanding, learning from the concrete to the abstract, and thinking and doing rather than memorizing by rote. A mistake is an opportunity to learn.

The following are some examples:

**Understanding Numeration: Problem Solving**

**Skill 1: Draw a Picture**

- Level A,B,C,D 2) A Trip To School

Notes

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
 With the Texas Essential Knowledge and Skills For Mathematics  
 3<sup>rd</sup> Grade**

**Skill 2: Find a Pattern**

Level A,B,C,D 2) Toy Animals

**Skill 3: Number Sentence**

Level A,B,C,D 2) Bill's Ball

**Skill 4: Make a Table**

Level A,B,C,D 1) Johnny's Pennies  
 2) Muffins

**Skill 5: Make a Graph**

Level A,B,C,D 1) Classroom Shoes  
 2) Animals

**Skill 6: Guess and Check**

Level A,B,C,D 2) The Gravy Spill

**Skill 8: Brick Path**

Level A,B,C,D 1) Brick Path

**Understanding Whole Numbers and Integers 2008**

**Notes**

**Section 1: The Meaning of Whole Numbers**

Expanded Notation

To 9999- Example 1

Write as Numerals- Example 1

**Understanding Fractions 2008**

**Notes**

**Section 3: Equivalent Fractions**

Introduction

Square

Pattern Blocks

Hexagon 1

Fraction Strips

Concept 1

The Clock

Introduction 1

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

**(15) The student communicates about Grade 3 mathematics using informal language. The student is expected to:**

(A) explain and record observations using objects, words, pictures, numbers, and technology; and

**Explaining and recording observations using objects, words, pictures, numbers, and technology is embedded in Understanding Numeration 2008© and Understanding Math 2008© program strategies such as the Flight Plan located on our website ( <http://www.neufeldmath.com/strategies/index.html> )**

(B) relate informal language to mathematical language and symbols.

**Relating everyday language to mathematical language and symbols is embedded in Understanding Numeration 2008© and Understanding Math 2008©. The programs emphasize understanding, learning from the concrete to the abstract, and thinking and doing rather than memorizing by rote. A mistake is an opportunity to learn. Our Word Bank located on our website supports this standard ( <http://www.neufeldmath.com/wordbank/index.html> )**

The following are some examples:

**Understanding Numeration: Place Value**

**Notes**

**Skill 1: Break Numbers into Groups**

- Level B 1) Making Groups
- Level C 1) Break 12 into Groups

**Understanding Whole Numbers and Integers 2008**

**Notes**

**Section 3: Multiplying and Dividing Whole Numbers**

- |                                    |                          |
|------------------------------------|--------------------------|
| Division by a Single Digit Divisor | Fair Sharing- Question 1 |
|                                    | Fair Sharing- Question 2 |
| Whole Numbers Around Us            | Example 1 - Oranges      |
|                                    | Example 2 - Bananas      |

**Understanding Fractions 2008**

**Notes**

**Section 5: Introduction to Decimals**

- |                          |                                |
|--------------------------|--------------------------------|
| Introduction to Decimals | Tenths and Decimals- Example 1 |
|                          | Tenths and Decimals- Example 2 |

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

<p><b>Understanding Fractions 2008</b>  <b>Section 1: The Meaning of Fractions</b>          Introduction.. Think, Write, Say</p> <p>Parts of a Fraction          Part of a Whole</p> <p>Parts of a Whole</p>	<p>Circle          Squares          Balls          Examples</p> <p>One Half          One Third          One Quarter          Two Fifths</p>	<b>Notes</b>
<p><b>(16) The student uses logical reasoning. The student is expected to:</b></p>		
<p>(A) make generalizations from patterns or sets of examples and nonexamples; and</p>		
<p><b>Making generalizations from patterns or sets of examples and nonexamples is embedded in Understanding Math 2008© and Understanding Numeration 2008©. The programs emphasize understanding, learning from the concrete to the abstract, and thinking and doing rather than memorizing by rote. A mistake is an opportunity to learn.</b></p>		
<p>The following are some examples:</p>		
<p><b>Understanding Whole Numbers and Integers 2008</b>  <b>Section 1: The Meaning of Whole Numbers</b>          Rounding Large Numbers</p>	<p>Example 1          Example 4          Example 5</p>	<b>Notes</b>
<p><b>Understanding Fractions 2008</b>  <b>Section 5: Introduction to Decimals</b>          Rounding Decimals</p>	<p>Example 1          Example 2          Summary</p>	<b>Notes</b>

**Correlation of the Understanding Numeration 2008© and the Understanding Math 2008© Programs  
With the Texas Essential Knowledge and Skills For Mathematics  
3<sup>rd</sup> Grade**

(B) justify why an answer is reasonable and explain the solution process.

**Justifying his or her thinking using objects, words, pictures, numbers, and technology is embedded in Understanding Numeration 2008© and Understanding Math 2008©. The programs emphasize understanding, learning from the concrete to the abstract, and thinking and doing rather than memorizing by rote. A mistake is an opportunity to learn.**

The following are some examples:

**Understanding Numeration: Problem Solving**

**Notes**

**Skill 7: Birthday Party**

Level A,B,C,D 1) Birthday Party

**Understanding Whole Numbers and Integers 2008**

**Notes**

**Section 3: Multiplying and Dividing Whole Numbers**

Multiply by a Single Digit Multiplier

Repeated Addition- Example 1 - With Blocks

Partial Products - Area- Example 1 - With Blocks

The Distributive Method- Example 1

The Lattice Method- Example 1

The Standard Method- Example 1

Whole Numbers Around Us

Example 1 - Oranges