

Northpoint Horizons

Math Elevations Correlated to the Pearson/Scott Foresman enVision Math Program

Grade 5

This document provides a sampling of the extensive math directives offered throughout the *Math Elevations* program that correlate to the skills taught in the enVision Math program. N/A denotes Not Applicable.

Grade 5 enVision Curriculum Content <i>Scope and Sequence</i>	<i>Math Elevations (Level E) Math Grade 5 Teacher’s Guide Examples/Lessons</i>
NUMBER SENSE	
Counting Rounding Patterns Multiples, Factors, Divisibility Money Appropriate Technology (indicated by asterisk)	Unit 1 – Numbers and Operations Unit 3 – Numeration and Fractions
1. Identify, illustrate and write numbers (words and digits) from millions to thousandths and conversely. (I-C-P-A) (1b.)	1.1 – Whole Number Place Value, pp. 18-19 1.2 – Place Value through Thousandths, pp. 20 - 21
2. Express whole numbers and decimals in expanded form. (I-C-P-A) (3a. 3c.)	1.1 – Whole Number Place Value, pp. 18-19 1.2 – Place Value through Thousandths, pp. 20 - 21
3. Name the place value from thousandths to millions of a particular digit given a whole number or decimal. (I-C- P-A) (1a.)	1.1 – Whole Number Place Value, pp. 18-19 1.2 – Place Value through Thousandths, pp. 20 - 21
4. Order sequentially a set of whole numbers up through the millions period. (I-C-P-A) (2a.)	1.1 – Whole Number Place Value, pp. 18-19 1.3 – Working with Whole Numbers, pp. 22 - 23

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5. Identify, name and write equivalent fractions. (I-C-P-A) (3a. 3b.)	3.1 – Understanding Fractions, pp. 54 - 55 3.2 – Equivalent Fractions and Simplest Form, pp. 56 - 57
6. Recognize fractional names for decimals through exploration with fractional and decimal models. (I-C-P- A) (2b. 3a. 3b.)	1.2 – Place Value through Thousandths, pp. 20 – 21 1.4 – Working with Decimal Numbers, pp. 24 - 25 3.1 – Understanding Fractions, pp. 54 – 55 <i>Manipulatives for exploration include Base Ten Blocks, DecimalMods Tiles, Deluxe Rainbow Fraction Circles, and Decahedral Dice</i>
7. Create models or illustrations to name and write mixed numbers and their equivalent fractions. (I-C-P-A) (1a. 3b.)	3.3 – Mixed Numbers and Improper Fractions, pp. 58 – 59 <i>Manipulatives to aid in the creation of models and illustrations include Decahedral Dice and Deluxe Fraction Squares.</i>
8. Use visual and manipulative representations of integers. (I-C-P) (3a.)	Level F 1.4 Introduction to Integers, pp. 24 - 25
9. Identify, compare and order fractions, integers, and decimals through thousandths. (I-C-P-A) (2b. 3a. 8a.)	1.4 – Working with Decimal Numbers, pp. 24 - 25 3.5 – Comparing and Ordering Fractions, pp. 62 – 63 3.6 – Comparing Fractions Using the LCD. pp. 64 – 65 <i>Comparing and ordering integers is found in Level F.</i> 1.4 Introduction to Integers, pp. 24 - 25
10. Round, given a variety of strategies, any given whole number to any specified place value. (I-C-P-A) (3c.)	1.3 – Working with Whole Numbers, pp. 22 - 23 1.4 – Working with Decimal Numbers, pp. 24 - 25
11. Explore other number systems and bases. (I-C-P-A) (2b. 3a. 6a.)	<i>Other number systems and bases are not formally explored in this program, but the Math Elevation manipulatives (Base Ten Blocks, DecimalMods Tiles, and Decahedral Dice (0-9)) can be used to introduce other systems and bases by the teacher.</i>
12. Explore and identify multiples and factors of whole numbers. (I-C-P-A) (3a. 6a.)	1.6 – Divisibility, pp. 28 - 29 1.7 – Greatest Common Factor, pp. 30 – 31 1.8 – Least Common Multiple, pp. 32 - 33

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<p>13. Distinguish the difference between the multiple and factor of a whole number. (I-C-P-A) (2b. 3a.)</p>	<p>1.6 – Divisibility, pp. 28 - 29 1.7 – Greatest Common Factor, pp. 30 – 31 1.8 – Least Common Multiple, pp. 32 - 33</p>
<p>14. Identify numbers divisible by 2, 3, 5, 9, and 10. (I-C-P- A) (2b. 3a. 3c. 6a.)</p>	<p>1.6 – Divisibility, pp. 28 - 29</p>
<p>15. Identify and classify a list of whole numbers 0 to 100 as prime or composite. (I-C-P-A) (2b. 3a. 6a.)</p>	<p>1.5 – Primes and Composites, pp. 26 - 27</p>
<p>COMPUTATION AND OPERATIONS</p>	
<p>Addition, Subtraction, Multiplication & Division (of whole numbers, fractions & decimals) Properties Percent Multiples, Factors, Divisibility Estimation Appropriate Technology (indicated by asterisk)</p>	<p>Unit 1 – Numbers and Operations Unit 2 - Computation with Whole and Decimal Numbers Unit 4 – Computation with Fractions, Decimals, and Percents Unit 5 - Algebra</p>
<p>1. Compute the sum or difference of two or more numerals (including decimals) of four digits or less. (I-C-P-A) (2b.)</p>	<p>2.1 – Addition and Subtraction of Whole Numbers, pp. 36 – 37 2.2 – Addition and Subtraction of Decimal Numbers, pp. 38 - 39</p>
<p>2. Develop and use a multiplication algorithm to find the product of any two numbers of four digits or less (Including decimals as one of the factors). (I-C-P-A) (1a. 8a.)</p>	<p>2.3 – Multiplying by Multiples of 10, 100, and 1,000, pp. 40 – 41 2.4 – Multiplying by a Two-Digit Factor, pp. 42 – 43 2.5 – Multiplying Decimals, pp. 44 - 45</p>

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<p>3. Develop and use a division algorithm to find the quotient of a 4-digit dividend (including decimals) and up to a 2-digit divisor (not including decimals). (I-C-P-A) (2b. 3b.)</p>	<p>2.6 – Estimating Quotients, pp. 46 – 47 2.7 – Long Division, pp. 48 – 49 2.8 – Interpreting Remainders, pp. 50 - 51</p>
<p>4. Using manipulatives, develop and record algorithms for the four operations with fractions. (I-C-P-A) (1b. 3c.)</p>	<p>4.1 – Addition and Subtraction of Fractions (Like Denominators), pp. 72 – 73 4.3 - Addition and Subtraction of Fractions (Unlike Denominators), pp. 76 – 77 <i>Manipulatives for these units include Fraction Tower Equivalency Cubes, Decahedral Dice, and Deluxe Rainbow Fraction Squares.</i></p>
<p>5. Find the GCF and LCM in a set of natural numbers. (I-C-P- A) (2b.)</p>	<p>1.7 – Greatest Common Factor, pp. 30 – 31 1.8 – Least Common Multiple, pp. 32 - 33</p>
<p>6. Perform the four operations with whole numbers, fractions, and decimals. (I-C-P-A) (1b. 6a.)</p>	<p>2.1 – Addition and Subtraction of Whole Numbers, pp. 36 – 37 2.2 – Addition and Subtraction of Decimal Numbers, pp. 38 – 39 2.4 – Multiplying by a Two-Digit Factor, pp. 42 – 43 2.5 – Multiplying Decimals, pp. 44 – 45 2.7 – Long Division, pp. 48 – 49 4.1 – Addition and Subtraction of Fractions (Like Denominators), pp. 72 – 73 4.2 – Addition and Subtraction of Mixed Numbers (Like Denominators), pp. 74 –75 4.3 - Addition and Subtraction of Fractions (Unlike Denominators), pp. 76 – 77 <i>Multiplying and dividing fractions can be found in Level F. Unit 4 – Computation with Fractions, pp. 78 - 86</i></p>

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7. Explore and use order of operations. (PEMDAS) (I-C-P-A) (2b.)	5.1 – Order of Operations, pp. 90 - 91
8. Evaluate a given expression containing variables. (I-C-P-A)	5.3 – Algebraic Expressions, pp. 94 – 95 5.4 – Evaluating Expressions, pp. 96 - 97
9. Use patterns to represent and solve problems. (I-C-P-A) (1a. 1b.)	5.2 – Investigating Patterns, pp. 92 - 93
10. Solve simple linear equations using concrete, informal methods. (I-C) (1a.)	5.5 – Solving One-Step Equations, pp. 98 – 99 5.6 – Problem Solving, pp. 100 - 101
11. Identify and apply the commutative, associative, and distributive properties of rational numbers. (I-C-P-A) (3b. 6a.)	<i>Applying the Associative, Commutative, and Distributive properties with regard to rational numbers can be found in level G, Unit 3 – Algebra.</i> 3.7 – Commutative and Associative Properties, pp. 92 – 94 3.8 – Distributive Property, pp. 95 - 97
12. Apply the properties of zero and one. (I-C-P-A) (2b.)	<i>Although students are exposed to multiplying by one and zero, and adding zero to other numbers, the multiplicative and additive identities (and property of zero for multiplication) are not formally introduced until Level G, Unit 4- Algebra.</i> 4.3 – Writing and Evaluating Expressions, pp. 106 – 108 4.5 – Simplifying Expressions, pp. 112 - 114
13. Find the prime factorization of a whole number. (I-C- P-A) (3a.)	1.5 – Primes and Composites, pp. 26- 27 <i>Formal introduction and application of prime factorization is explored in Level G, Unit 1- Decimals, Exponents, and Square Roots.</i> 1.5 – Prime Factorization, pp. 31- 33

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<p>14. Explore the recording of prime factorization in exponential form. (I-C-P-A)</p>	<p><i>Formal introduction and application of prime factorization is explored in Level G, Unit 1- Decimals, Exponents, and Square Roots.</i></p> <p>1.5 – Prime Factorization, pp. 31- 33</p>
<p>15. Use a variety of estimation strategies. (I-C-P-A) (1a. 3d.)</p>	<p>2.6 – Estimating Quotients, pp. 46 – 47</p>
<p>16. Use estimation, approximation and mental computation to solve problems where exact answers are or NOT required. (I-C-P-A) (2a. 3d.)</p>	<p>2.6 – Estimating Quotients, pp. 46 – 47 5.6 – Problem Solving , pp. 100 - 101</p>
<p>17. Determine the reasonableness of sums, differences, products and quotients using estimation. (I-C-P-A) (2a. 3d.)</p>	<p><i>The Math Elevations program has a three-step Instructional Approach to Learning Success; Instruction, Practice and Reinforcement, and Assessment. In all three steps, students are encouraged to determine the reasonableness of their findings through estimation. This tool is used throughout the entire program in the Wrap Up part of the lesson. Examples:</i></p> <p>2.2 – Addition and Subtraction of Decimal Numbers, pp. 38 – 39 (Wrap Up Activity)</p> <p>2.5 – Multiplying Decimals, pp. 44 – 45 (Wrap Up Activity)</p> <p>2.6 - Estimating Quotients, pp. 46 – 47 (Wrap Up Activity)</p>
<p>18. *Use calculators, mental math, pencil and paper and computer methods in appropriate computation situations. (I-C-P-A) (2a. 3d. 6b.)</p>	<p><i>The Instructional part of the C-R-A System of the Math Elevations program invites students to draw and solidify understanding. This is accomplished through the use of calculators, mental math, pencil and paper, and computer methods for every unit in the program.</i></p> <p><i>The Software component of the Math Elevations Comprehensive Intervention System includes technology (CD-ROM) such as: Payday, Multiple Mania, Ziggy's Playstation, Sailing Signs, Saturn Speedway, The Fraction Machine, Desert Division, and many others. These are just some of the student software components that make up the computer component of the Math Elevations</i></p>

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	<i>Program for this level.</i>

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DATA ANALYSIS AND CHANCE	
Data Collection and Organization Graphing Statistics Probability Appropriate Technology (indicated by asterisk)	Unit 5 - Algebra Unit 8 – Probability and Data Analysis
1. Interpret and analyze the data from a bar, line, picto, and circle graph, charts and tables. (I-C-P-A) (1a. 2a. 3c. 3d. 5a. 6b. 7a.)	8.6 – Bar Graphs, pp. 154 – 155 8.7 – Line Graphs, pp. 156 – 157 8.8 – Circle Graphs, pp. 158 - 159
2. Construct a graph or diagram using an appropriate scale given a set of numerical data. (I-C-P-A) (1a. 3b. 5a. 6b. 7a. 8a.)	8.6 – Bar Graphs, pp. 154 – 155 8.7 – Line Graphs, pp. 156 – 157
3. Given a problem situation, collect, organize and present the numerical data in a variety of forms, recognizing the most effective form for the data. (I-C-P-A) (1a. 2a. 3c. 5a. 7a. 8a)	8.4 – Mode, Median, and Range, pp. 150 – 151 8.5 – The Mean, pp. 152 – 153 8.6 – Bar Graphs, pp. 154 – 155 8.7 – Line Graphs, pp. 156 – 157 8.8 – Circle Graphs, pp. 158 - 159
4. Construct and read a stem and leaf plot. (I-C-P-A) (6b.)	Level F, Unit 8 – Probability, Statistics, and Data Analysis. 8.2 – Line Plots and Stem-and-Leaf Plots, pp. 146 - 147
5. Identify which bar, line or picto graph reflects a certain set of data. (I-C-P-A) (2a. 3b. 5a.)	8.6 – Bar Graphs, pp. 154 – 155 8.7 – Line Graphs, pp. 156 – 157 Level D, Unit 8 - Data Analysis and Probability 8.3 – Pictographs, pp. 148 –149

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6. Construct graphs and pictures using an x/y axis. (I-C-P-A) (1a. 3b. 3c. 5a. 6b. 8a.)	5.8 – The Coordinate Plane, pp. 104 - 105
7. *Explore statistics such as mean, median, mode and range using pencil and paper, calculators and computers. (I-C-P-A) (1a. 3b. 3c. 5a.)	8.4 – Mode, Median, and Range, pp. 150 – 151 8.5 – The Mean, pp. 152 – 153
8. Given a problem solving situation involving the likelihood of an event occurring, solve the problem by constructing a sample space, i.e., listing the possible combinations of a given number on a pair of dice. (I-C-P-A) (1a. 5a.)	8.1 – Possible Outcomes, pp. 144 - 145

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GEOMETRY AND MEASUREMENT	
Two Dimensional Three Dimensional Congruency & Similarity Transformations Patterns Measurement Temperature Time Appropriate Technology (indicated by asterisk)	Unit 6 – Measurement Unit 7 - Geometry
1. Identify and/or classify a selection of plane figures, stating their properties. (I-C-P-A) (1b. 6a.)	7.4 – Classifying Triangles, pp. 132 – 133 7.7 – Classifying Quadrilaterals, pp. 138 – 139 Level F, Unit 6 – Geometry 6.1 – Properties of Polygons, pp. 108 - 109
2. Identify congruent and similar figures given a set of plane figures and their attributes. (I-C-P-A) (1a. 6a.)	7.5 – Translations, pp. 134 – 135 7.6 – Reflections and Rotations, pp. 136 - 137
3. Given a series of pictorial representations of a cube in various rotational positions, identify those pictures that represent the same cube. (I-C-P-A) (1b. 4a. 4b. 4c. 6a.)	7.8 - Solid Figures, pp. 140 – 141
4. Explore and compare the properties of various solids. (I-C-P-A) (4c. 6a.)	7.8 - Solid Figures, pp. 140 – 141

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5. Produce a 3-dimensional object using a pictorial representation. (I-C-P-A) (1a. 1b. 4a. 6a.)	7.8 - Solid Figures, pp. 140 – 141
6. Explore surface area. (I-C-P)(1a.1b.4a.4b.4d.)	Level G, Unit 7 – Measurement 7.6 – Surface Area of a Prism, pp. 200 – 202 7.7 – Surface Area of a Cylinder, pp. 203 - 205
7. Explore slides, flips and turns. (I-C-P-A)(1b.4a. 4b.)	7.5 – Translations, pp. 134 – 135 7.6 – Reflections and Rotations, pp. 136 - 137
8. Explore tessellations on a plane. (I-C-P-A) (1b. 4a.)	<i>Tesselations can be explored with students after their work with translations, reflections and rotations in Unit 7. Software such as Shape Shift, Hanging Around the Hangar, Knitting Ziggy, and Ziggy’s Space Lounge can be used to help accomplish this.</i> 7.5 – Translations, pp. 134 – 135 7.6 – Reflections and Rotations, pp. 136 – 137
9. Select an appropriate unit of measure given a situation. (I-C-P-A) (3a. 6a.)	6.1 – Area and Perimeter, pp. 108 – 109 6.2 – Investigating Area and Perimeter, pp. 110 – 111 6.3 – Perimeter of Irregular Shapes, pp. 112 - 113
10. Estimate size, quantity, temperature, capacity and the passage of time. (I-C-P-A) (1a. 1b. 4c.)	Level C, Unit 7 - Measurement 7.1 – Time, pp. 126 – 127 7.7 – Capacity, pp. 138 – 139 <i>Estimation with size and quantity is used and found in all levels, C through H.</i>
11. Measure a given item to an indicated precision. (I-C-P-A)	6.1 – Area and Perimeter, pp. 108 – 109 6.3 – Perimeter of Irregular Shapes, pp. 112 – 113
12. Identify, measure and construct acute, right and obtuse angles. (I-C-P-A) (1b. 7a.)	7.3 – Measuring and Classifying Angles, pp. 130 – 131

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13. Find the area and perimeter of any plane figure. (I-C-P-A) (1b.)	6.1 – Area and Perimeter, pp. 108 – 109 6.2 – Investigating Area and Perimeter, pp. 110 – 111 6.4 – Area of parallelograms, pp. 114 – 115 6.5 – Area of Triangles, pp. 116 - 117
14. Develop strategies to calculate the perimeter and area of squares, rectangles, parallelograms, kites, triangles and circles. (I-C-P-A) (1a. 4b. 4c.)	6.1 – Area and Perimeter, pp. 108 – 109 6.2 – Investigating Area and Perimeter, pp. 110 – 111 6.4 – Area of Parallelograms, pp. 114 – 115
15. *Use appropriate software to explore geometric concepts (Tesselmania, computer software, Geometer’s Sketchpad, etc.) (I-C-P-A) (2a. 4a. 4b.)	<i>Each Unit of the Math Elevations comes with Student Software (CD-ROM). For the Geometry Level, the following programs are available: Line Time, Plutonic Parallels, Moonrock Measure, Shape Shift, Hanging Around the Hangar, Knitting Ziggy, Ziggy’s Space Lounge, and Rocket Radio Tower.</i>
16. After developing a standard unit of measure, estimate, record and measure the area of rectangular regions. (I-C-P-A) (4c. 3d.)	6.1 – Area and Perimeter, pp. 108 – 109 6.2 – Investigating Area and Perimeter, pp. 110 – 111