

A Correlation of

Scott Foresman • Addison Wesley

en**Vision**MATH™

to the

Kansas
Curricular Standards for Mathematics
Knowledge Base & Application Indicators
Grade Four

PEARSON

G/M-258_G4

INTRODUCTION

This correlation is designed to show the close alignment between Scott Foresman-Addison Wesley enVisionMATH and the Kansas Curricular Standards for Mathematics. Correlation page references are to the Teacher’s Edition and Student Edition.

The en**Vision**MATH™ program is based around scientific research on how children learn mathematics as well as on classroom-based evidence that validates proven reliability.

Personalized Curriculum

en**Vision**MATH™ provides 20 (16 in Kindergarten) focused topics that are coherent, digestible groups of lessons focusing on one or a few related content areas. A flexible sequence of topics is small enough for a district to rearrange into a personalized curriculum that matches the sequence preferred by the district. The curriculum is designed so that all standards can be taught before the major mathematics testing.

Instructional Design

en**Vision**MATH™ teaches for deep conceptual understanding using research-based best practices. Essential understandings connected by Big Ideas are explicitly stated in the Teacher’s Edition. Daily Spiral Review and the Problem of the Day focus foundational skills and allow for ongoing practice with a variety of problem types. Daily interactive concept development encourages students to interact with teachers and other students to develop conceptual understanding.

Visual Learning allows students to benefit from seeing math ideas portrayed pictorially as well as being able to see connections between ideas. en**Vision**MATH™ created a Visual Learning Bridge which is a step-by-step bridge between the interactive learning activity and the lesson exercises to help students focus on one idea at a time and see the connections within the sequence of ideas. The strong sequential visual/verbal connections deepen conceptual understanding for students of all learning modalities and are particularly effective with English language learners and struggling readers. Guiding questions in blue type help the teacher guide students through the examples, ask probing questions to stimulate higher order thinking, and allow for checking of understanding.

Differentiated Instruction

en**Vision**MATH™ engages and interests all students with leveled activities for ongoing differentiated instruction. A Teacher-Directed Intervention activity at the end of every lesson provides immediate opportunities to get students on track. In addition, ready made leveled learning centers for each lesson allow different students to do the same activity at different levels at the same time giving the teacher uninterrupted time to focus on reteaching students who require intervention. All centers can be used repeatedly due to the inclusion of a “Try Again” at the end. They can also be used for ongoing review and they can be used year after year. Topic-specific considerations for EL, Special Education, At-Risk, and Advanced students enable the teacher to accommodate the diverse learners in the classroom.

**Scott Foresman – Addison Wesley enVisionMATH
to the
Kansas Curricular Standards for Mathematics**

Knowledge Base Indicators

Grade Four

Standard 1: Number and Computation – The student uses numerical and computational concepts and procedures in a variety of situations.

Benchmark 1: Number Sense – The student demonstrates number sense for whole numbers, fractions (including mixed numbers), decimals, and money including the use of concrete objects in a variety of situations.

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. knows, explains, and uses equivalent representations for (\$):</p> <p>a. whole numbers from 0 through 100,000 (2.4.K1a-b);</p>	<p>Topic 1: 2A-2H, 2-3, 4A-5, 6-7, 7A-7B, 8A-9B, 10A-11, 12-13, 13A-B, 14A-15B, 22A-24</p> <p>Topic 2: 26A-26F, 26-27, 28A-29, 30-31</p>
<p>b. fractions greater than or equal to zero (halves, fourths, thirds, eighths, tenths, twelfths, sixteenths, hundredths) including mixed numbers (2.4.K1c);</p>	<p>Topic 10: 214A-214F, 214-215, 216A-217, 219A-219B, 220A-221B, 222A-223B, 224A-225, 227A-227B, 228A-229B, 230A-231, 233A-233B, 234A-235B, 236A-237B, 238A-239, 241A-241B</p>

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>c. decimals greater than or equal to zero through hundredths place and when used as monetary amounts (2.4.K1c-d) (\$), e.g., $7¢ = \\$0.07 = 7/100$ of a dollar or a hundreds grid with 7 sections colored or $.1 = 1/10 = \square\square\square\square\square\square\square\square$.</p>	<p>Topic 1: 16A-17B, 18A-19B Topic 12: 266A-266F, 266-267, 268A-269B, 270A-271, 272-273, 273A-273B, 274A-275B, 276A-277, 278-279, 279A-279B, 280A-281B, 282A-283B, 284-287C</p>
<p>2. compares and orders: a. whole numbers from 0 through 100,000 (2.4.K1a-b) (\$);</p>	<p>Topic 1: 10A-11, 12-13, 13A-13B, 22-25 Topic 10: 237 Topic 18: 438A-439B, 443A</p>
<p>b. fractions greater than or equal to zero (halves, fourths, thirds, eighths, tenths, twelfths, sixteenths, hundredths) including mixed numbers with a special emphasis on concrete objects (2.4.K1c);</p>	<p>Topic 10: 234A-235B, 236A-237B Topic 12: 276A, 276-277, 278, 279A-279B, 280A-281B, 282A, 287A-287B</p>
<p>c. decimals greater than or equal to zero through hundredths place and when used as monetary amounts (2.4.K1c-d) (\$).</p>	<p>Topic 12: 270A-271, 272, 273A-273B, 274A, 276A, 276-277, 278, 279A-279B, 280A-281B, 282A-283B, 284-287B</p>

Benchmark 2: Number Systems and Their Properties – The student demonstrates an understanding of whole numbers with a special emphasis on place value; recognizes, uses, and explains the concepts of properties as they relate to whole numbers; and extends these properties to fractions (including mixed numbers), decimals, and money.

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. ▲ identifies, models, reads, and writes numbers using numerals, words, and expanded notation from hundredths place through one-hundred thousands place (2.4.K1a-b) (\$), e.g., four hundred sixty-two thousand, two hundred eighty-four and fifty hundredths = 462,284.50 or $462,284.50 = (4 \times 100,000) + (6 \times 10,000) + (2 \times 1,000) + (2 \times 100) + (8 \times 10) + (4 \times 1) + (5 \times .1) + (0 \times .01) = 400,000 + 60,000 + 2,000 + 200 + 80 + 4 + .5 + .00$.</p>	<p>Topic 1: 2A-2H, 2-3, 4A-5, 6-7, 7A-7B, 8A-9B, 10A-11, 12-13, 13A-B, 14A-15B, 22A-24 Topic 2: 26A-26F, 26-27, 28A-29, 30-31</p>
<p>2. classifies various subsets of numbers as whole numbers, fractions (including mixed numbers), or decimals (2.4.K1b-c, 2.4.K1i).</p>	<p>Topic 1: 2A-2H, 2-3, 4A-5, 6-7, 7A-7B Topic 10: 214A-214F, 214-215, 216A-217, 220A-221B, 222A-223B Topic 12: 266A-266F, 266-267, 268A-269B, 270A-271, 274A-275B</p>
<p>3. identifies the place value of various digits from hundredths place through one hundred thousands place (2.4.K1b) (\$).</p>	<p>Topic 1: 2A-2H, 2-3, 4A-5, 6-7, 7A-7B, 8A-9B, 10A-11, 12-13, 13A-B, 14A-15B, 16A-17B, 22A-24 Topic 12: 266A-266B, 268A-269B, 270A-271</p>
<p>4. identifies any whole number as even or odd (2.4.K1a).</p>	<p>Topic 1: 21A</p>

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>5. uses the concepts of these properties with the whole number system and demonstrates their meaning including the use of concrete objects (2.4.K1a) (\$):</p> <p>a. ▲ commutative properties of addition and multiplication, e.g., $12 + 18 = 18 + 12$ and $8 \times 9 = 9 \times 8$;</p>	<p>Topic 3: 52E-52F, 53, 60A-61B Topic 4: 79</p>
<p>b. ▲ zero property of addition (additive identity) and property of one for multiplication (multiplicative identity), e.g., $24 + 0 = 24$ and $75 \times 1 = 75$;</p>	<p>Topic 3: 52E-52F, 53, 60A-61B Topic 4: 79</p>
<p>c. ▲ associative properties of addition and multiplication, e.g., $4 + (2 + 3) = (4 + 2) + 3$ and $2 \times (3 \times 4) = (2 \times 3) \times 4$;</p>	<p>Topic 2: 28A-30, 31A-31B Topic 3: 52D, 52, 66 (#5) Topic 4: 79 Topic 5: 98A-99B Topic 7: 150A-151B</p>
<p>d. ▲ symmetric property of equality applied to addition and multiplication, e.g., $100 = 20 + 80$ is the same as $20 + 80 = 100$ and $21 = 7 \times 3$ is the same as $3 \times 7 = 21$;</p>	<p>Grade 4 students apply the commutative, identity, associative, and distributive properties. Topic 2: 28A-30, 31A-31B Topic 3: 52D-52F, 52-53, 60A-61B, 66 (#5) Topic 4: 79 Topic 5: 98A-99B Topic 7: 150A-151B, 155</p>

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
e. zero property of multiplication, e.g., $9 \times 0 = 0$ or $0 \times 112 = 0$;	Topic 3: 52E-52F, 53, 60A-61B Topic 4: 79
f. distributive property, e.g., $6(7 + 3) = (6 \cdot 7) + (6 \cdot 3)$.	Topic 3: 52D, 52, 62A-63B, 66 (#5) Topic 5: 98A-99B, 104-105 Topic 7: 150A-151B, 155

Benchmark 3: Estimation – The student uses computational estimation with whole numbers, fractions (including mixed numbers) and money in a variety of situations.

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. estimates whole number quantities from 0 through 10,000; fractions (halves, fourths, thirds); and monetary amounts through \$1,000 using various computational methods including mental math, paper and pencil, concrete materials, and appropriate technology (2.4.K1a-d) (\$).</p>	<p>Topic 2: 32A-33B Topic 5: 100A-101B, 102A-104, 105A-105B Topic 7: 144A-145B Topic 8: 166A-167B Topic 10: 222A-223B Topic 13: 290A-292, 293A-293B, 294A-295B, 300-301 Topic 14: 316-317</p>

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>2. uses various estimation strategies and explains how they are used when estimating whole numbers quantities from 0 through 10,000; fractions [(halves, fourths, thirds) including mixed numbers)]; and monetary amounts through \$1,000 (2.4.K1a-d) (\$).</p>	<p>Topic 2: 32A-33B Topic 5: 100A-101B, 102A-104, 105A-105B Topic 7: 144A-145B Topic 8: 166A-167B Topic 10: 222A-223B Topic 13: 290A-292, 293A-293B, 294A-295B, 300-301 Topic 14: 316-317</p>
<p>3. recognizes and explains the difference between an exact and an approximate answer (2.4.K1a), e.g., when asked how many desks are in the room, the student gives an estimate of about 30 and then counts the desks and indicates an exact answer is 28 desks.</p>	<p>Topic 2: 32A-33B Topic 5: 100A-101B, 102A-104, 105A-105B Topic 7: 144A-145B Topic 8: 166A-167B Topic 10: 222A-223B Topic 13: 290A-292, 293A-293B, 294A-295B, 300-301 Topic 14: 316-317</p>
<p>4. selects the appropriate type of range of estimation strategies and determines if the estimate is an over estimate or underestimate, (2.4.K1a).</p>	<p>Topic 2: 32A-33B Topic 5: 100A-101B, 102A-104, 105A-105B Topic 7: 144A-145B Topic 8: 166A-167B Topic 10: 222A-223B Topic 13: 290A-292, 293A-293B, 294A-295B, 300-301 Topic 14: 316-317</p>

Benchmark 4: Computation – The student models, performs, and explains computation with whole numbers, fractions, and money including the use of concrete objects in a variety of situations.

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. computes with efficiency and accuracy using various computational methods including mental math, paper and pencil, concrete materials, and appropriate technology (2.4.K1a) (\$).</p>	<p>Topic 2: 26A-26F, 26-27, 28A-29, 32A-33B, 34A-35B Topic 5: 94A-94F, 94-95, 96A-97B, 98A-99B, 100A-101B Topic 7: 142A-143B, 144A-145B Topic 8: 164A-165B, 166A-167B, 168A-169B</p>
<p>2. N states and uses with efficiency and accuracy multiplication facts from 1 x 1 through 12 x 12 and corresponding division facts (2.4.K1a) (\$).</p>	<p>Topic 3: 52A-52F, 52-53, 56-57, 58A-59B, 62A-63B, 64A-65B, 66A-67B, 70-72 Topic 4: 74A-74F, 74-75, 76A-77, 78-79, 79A-79B, 80A-81B, 82A-83B, 84A-85B</p>
<p>3. N performs and explains these computational procedures (\$):</p> <p>a. adds and subtracts whole numbers from 0 through 100,000 and when used as monetary amounts (2.4.K1a-b,d);</p>	<p>Topic 1: 18A-19B Topic 2: 26A-26F, 26-27, 28A-29, 30-31, 31A-31B, 32A-33B, 36A-37, 38-39, 39A-39B, 40A-41B, 42A-43B, 44A-45, 47A-47B, 48-50</p>
<p>b. multiplies through a three-digit whole number by a two-digit whole number (2.4.K1a-b);</p>	<p>Grade 4 students solidify the concepts and meaning of multiplication by concentrating on 2-digit factors. The following reference is to a reteaching worksheet and a practice worksheet giving students an opportunity to extend their skills to multiply a 2-digit number by a 3-digit number that is not a multiple of ten. Topic 7: 155B</p>

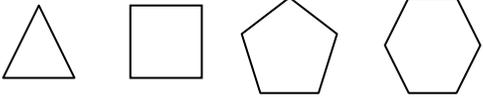
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c. multiplies whole dollar monetary amounts (through three-digits) by a one- or two-digit whole number (2.4.K1d), e.g., $\$45 \times 16$;	Topic 5: 97, 99, 115, 115B (Enrichment), 120 Topic 7: 156B-157
d. multiplies monetary amounts less than \$100.00 by whole numbers less than ten (2.4.K1d), e.g., $\$14.12 \times 7$;	Topic 13: 289, 304B, 305B, 306A, 309, 311A
e. divides through a two-digit whole number by a one-digit whole number with a one-digit whole number quotient with or without a remainder (2.4.K1a-b), e.g., $47 \div 5 = 9 \text{ r } 2$;	Topic 8: 162A-162F, 168A-169B, 170A-171, 172, 173A-173B, 174A-175, 176, 177A-177B, 178A, 188-191, 193A-B
f. adds and subtracts fractions greater than or equal to zero with like denominators (2.4.K1c);	Topic 11: 248A-248F, 248-249, 250A-251, 252-253, 253A-253B, 254A-255B, 256A-257B, 258A-259, 260-261, 262-264
g. figures correct change through \$20.00 (2.4.K1d).	Topic 1: 18A-19B, 22-25
4. identifies multiplication and division fact families (2.4.K1a).	Topic 4: 74C, 75, 80A-81B, 82A, 82-83A, 84A-85B, 89, 90-93B
5. reads and writes horizontally, vertically, and with different operational symbols the same addition, subtraction, multiplication, or division expression, e.g., $6 \cdot 4$ is the same as 6×4 is the same as 4 and $\begin{array}{r} \\ \times 6 \\ \hline \end{array}$ $6(4)$ or 10 divided by 2 is the same as $10 \div 2$ or $\begin{array}{r} 10 \\ \underline{} \\ 2 \end{array}$	Topic 3: 59B, 62, 63B, 65B Topic 4: 82, 84 Topic 5: 107, 114 Topic 7: 146, 148, 150, 152, 154, 159A, 160

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>6. ▲ N shows the relationship between these operations with the basic fact families (addition facts with sums from 0 through 20 and corresponding subtraction facts, multiplication facts from 1 x 1 through 12 x 12 and corresponding division facts) including the use of mathematical models (2.4.K1a) (\$):</p> <p>a. addition and subtraction,</p>	<p>Topic 2: 40A-41B, 44A</p>
<p>b. addition and multiplication,</p>	<p>Topic 3: 52A, 54A-55, 57A-57B, 58B Topic 4: 74A</p>
<p>c. multiplication and division,</p>	<p>Topic 4: 74C, 75, 80A-81B, 82A, 82-83A, 84A-85B, 89, 90-93B</p>
<p>d. subtraction and division.</p>	<p>Topic 4: 74A-74B, 76B</p>
<p>7. finds factors and multiples of whole numbers from 1 through 100 (2.4.K1a).</p>	<p>Topic 3: 58A-59B, 62A-63B, 64A-65B, 66A-67B, 71A Topic 5: 96A-97B Topic 7: 150A-151B Topic 8: 183A-183B, 184A-185B, 188-193D</p>

Standard 2: Algebra – The student uses algebraic concepts and procedures in a variety of situations.

Benchmark 1: Patterns – The student recognizes, describes, extends, develops, and explains relationships in patterns using concrete objects in a variety of situations.

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. uses concrete objects, drawings, and other representations to work with types of patterns(2.4.K1a):</p> <p>a. repeating patterns, e.g., an AB pattern is like 1-2, 1-2, ...; an ABC pattern is like dog-horse-pig, dog-horse-pig, ...; an AAB pattern is like $\uparrow\uparrow\rightarrow$, $\uparrow\uparrow\rightarrow$, ...;</p>	<p>Topic 1: 20B Topic 14: 336-337 Topic 19: 448, 462</p>
<p>b. growing patterns e.g., 2, 5, 11, 20, ...</p>	<p>Topic 9: 205B (Enrichment) Topic 14: 336-338</p>
<p>2. uses these attributes to generate patterns:</p> <p>a. counting numbers related to number theory (2.4.K1a), e.g., multiples and factors through 12 or multiplying by 10, 100, or 1,000;</p>	<p>Topic 1: 20-21 Topic 3: 58B-59, 59B Topic 5: 108 Topic 6: 128A-129B, 130-131B, 132-133B, 136-139</p>
<p>b. whole numbers that increase or decrease (2.4.K1a) (\$), e.g., 20, 15, 10, ...;</p>	<p>Topic 1: 20-21 Topic 3: 58B-59, 59B Topic 5: 108 Topic 6: 128A-129B, 130-131B, 132-133B, 136-139</p>

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>c. geometric shapes including one or two attributes changes (2.4.K1f), e.g.,</p>  <p>... when the next shape has one more side; or when both color and shape change at the same time such as</p> 	<p>Topic 9: 205B (Enrichment) Topic 12: 278 Topic 14: 336-337 Topic 19: 448, 462</p>
<p>d. measurements (2.4.K1a), e.g., 3 ft., 6 ft., 9 ft., ...;</p>	<p>Topic 12: 278 Topic 14: 336-338</p>
<p>e. money and time (2.4.K1a,d) (\$), e.g., \$.25, \$.50, \$.75, ... or 1:05 p.m., 1:10 p.m., 1:15 p.m., ...;</p>	<p>Topic 1: 18A-19B, 20, 22 Topic 5: 120 (#12) Topic 7: 156B-156 Topic 13: 305B, 306A, 309, 311A Topic 16: 385, 386A-387, 388-389, 389A-389B, 392A-393B, 394-395A</p>
<p>f. things related to daily life (2.4.K1a), e.g., water cycle, food cycle, or life cycle;</p>	<p>Topic 1: 18A-19B, 20, 22 Topic 5: 120 (#12) Topic 7: 156B-156 Topic 13: 305B, 306A, 309, 311A Topic 16: 385, 386A-387, 388-389, 389A-389B, 392A-393B, 394-395A</p>

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>g. things related to size, shape, color, texture, or movement (2.4.K1a), e.g., rough, smooth, rough, smooth, rough, smooth, ...; or clapping hands (kinesthetic patterns).</p>	<p>Topic 9: 205B (Enrichment) Topic 12: 278 Topic 14: 336-337 Topic 19: 448, 462</p>
<p>3. identifies, states, and continues a pattern presented in various formats including numeric (list or table), visual (picture, table, or graph), verbal (oral description), kinesthetic (action), and written (2.4.K1a) (\$).</p>	<p>Topic 1: 20B, 20-21 Topic 3: 58B-59, 59B Topic 5: 108 Topic 6: 128A-129B, 130-131B, 132-133B, 136-139 Topic 9: 205B (Enrichment) Topic 12: 278 Topic 14: 336-338 Topic 19: 448, 462</p>
<p>4. generates: a. a pattern (repeating, growing) (2.4.K1a);</p>	<p>Topic 1: 20B, 20-21 Topic 3: 58B-59, 59B Topic 5: 108 Topic 6: 128A-129B, 130-131B, 132-133B, 136-139 Topic 9: 205B (Enrichment) Topic 12: 278 Topic 14: 336-338 Topic 19: 448, 462</p>
<p>b. a pattern using a function table (input/output machines, T-tables) (2.4.K1e).</p>	<p>Topic 6: 126D, 127, 128B-129B, 130A-131B, 132A-133B, 136-138 Topic 14: 336-338, 339A, 342</p>

Benchmark 2: Variables, Equations, and Inequalities – The student uses variables, symbols, and whole numbers to solve equations including the use of concrete objects in a variety of situations.

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. explains and uses variables and symbols to represent unknown whole number quantities from 0 through 1,000 (2.4.K1a).</p>	<p>Topic 2: 35, 44B-46, 48-49, 50 Topic 3: 62, 64A (Daily Spiral Review), 64, 66, 70, 71A Topic 6: 126C, 126E-126F, 128B-129B, 130A-131B, 132A-133B, 135, 136-138 Topic 18: 434A-435B, 436A-437B, 438A-439B, 440B, 442-444</p>
<p>2. ▲ solves one-step equations using whole numbers with one variable and a whole number solution that:</p> <p>a. find the unknown in a multiplication or division equation based on the multiplication facts from 1 x 1 through 12 x 12 and corresponding division facts (2.4.K1a), e.g., $60 = 10 \times n$;</p>	<p>Topic 3: 62B, 64, 66, 70, 71A Topic 6: 126F, 128-129B, 132A-133B, 136-138 Topic 18: 436A-437B, 442-444</p>
<p>b. find the unknown in a money equation using multiplication and division based upon the facts and addition and subtraction with values through \$10 (2.4.K1d) (\$), e.g., 8 quarters + 10 dimes = y dollars;</p>	<p>Topic 1: 19A-19B, 22 Topic 5: 97, 115B (Enrichment) Topic 7: 156B-157</p>
<p>c. find the unknown in a time equation involving whole minutes, hours, days, and weeks with values through 200 (2.4.K1a), e.g., 180 minutes = y hours.</p>	<p>Topic 16: 362D, 384, 388, 395A</p>

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<p>3. compares two whole numbers from 0 through 10,000 using the equality and inequality symbols ($=$, \neq, $<$, $>$) and their corresponding meanings (is equal to, is not equal to, is less than, is greater than) (2.4.K1b) (\$).</p>	<p>Topic 1: 10A-11, 12-13, 13A-13B, 22-25 Topic 10: 237 Topic 18: 438A-439B, 443A</p>
<p>4. reads and writes whole number equations and inequalities using mathematical vocabulary and notation, e.g., $15 = 3 \times 5$ is the same as fifteen equals three times five or $4,564 > 1,000$ is the same as four thousand, five hundred sixty-four is greater than one thousand.</p>	<p>Topic 2: 44A-46, 47B, 48, 50 Topic 4: 74F, 88 Topic 10: 219 Topic 13: 303 Topic 18: 430F, 432B, 433, 434A-435B, 436A-437B, 438A-439B, 440A-441A, 442</p>

Benchmark 3: Functions – The student recognizes and describes whole number relationships including the use of concrete objects in a variety of situations.

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. states mathematical relationships between whole numbers from 0 through 1,000 using various methods including mental math, paper and pencil, concrete materials, and appropriate technology (2.4.K1a) (\$).</p>	<p>Topic 1: 10A-11, 12-13, 13A-13B, 22-25 Topic 10: 237 Topic 18: 438A-439B, 443A</p>

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH														
<p>2. ▲ finds the values, determines the rule, and states the rule using symbolic notation with one operation of whole numbers from 0 through 200 using a horizontal or vertical function table (input/output machine, T-table) (2.4.K1e), e.g., using the function table, find the rule, the rule is $N \cdot 4$.</p> <table border="1" data-bbox="510 545 716 813"> <tbody> <tr><td>N</td><td>?</td></tr> <tr><td>1</td><td>4</td></tr> <tr><td>5</td><td>20</td></tr> <tr><td>2</td><td>8</td></tr> <tr><td>3</td><td>?</td></tr> <tr><td>4</td><td>?</td></tr> <tr><td>?</td><td>24</td></tr> </tbody> </table>	N	?	1	4	5	20	2	8	3	?	4	?	?	24	<p>Topic 6: 126D, 127, 128B-129B, 130A-131B, 132A-133B, 136-138 Topic 14: 336-338, 339A, 342</p>
N	?														
1	4														
5	20														
2	8														
3	?														
4	?														
?	24														
<p>3. generalizes numerical patterns using whole numbers from 0 through 200 with one operation by stating the rule using words, e.g., if the pattern is 46, 68, 90, 112, 134, ...; in words, the rule is add 22 to the number before.</p>	<p>Topic 1: 20-21 Topic 3: 58B-59, 59B Topic 5: 108 Topic 6: 126D, 127, 128A-129B, 130A-131B, 132A-133B, 136-139 Topic 14: 336-338, 339A, 342</p>														
<p>4. uses a function table (input/output machine, T-table) to identify, plot, and label the ordered pairs in the first quadrant of a coordinate plane (2.4.K1a,e).</p>	<p>Topic 17: 408A-409B, 410A-411B, 424, 426</p>														

Benchmark 4: Models – The student develops and uses mathematical models including the use of concrete objects to represent and explain mathematical relationships in a variety of situations.

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. knows, explains, and uses mathematical models to represent mathematical concepts, procedures, and relationships. Mathematical models include:</p> <p>a. process models (concrete objects, pictures, diagrams, number lines, hundred charts, measurement tools, multiplication arrays, division sets, or coordinate planes/grids) to model computational procedures, mathematical relationships, and equations (1.1.K1a, 1.1.K2a, 1.2.K1, 1.2.K4-5, 1.3.K1-4, 1.4.K1-2, 1.4.K3a-b, 1.4.K3e, 1.4.K4, 1.4.K6-7, 2.1.K1, 2.1.K.1a-b, 2.1.K2d-g, 2.1.K3, 2.1.K4a, 2.2.K1, 2.2.K2a, 2.2.K3-4, 2.3.K1, 2.3.K4, 3.2.K1-4, 3.3.K1-2, 3.4.K1-4, 4.2.K3) (\$);</p>	<p>Topic 7: 146B-148, 149B Topic 8: 170B-171, 173B Topic 12: 276B-278, 279A-279B, 282B-283B Topic 13: 296B-298, 299A-299B Topic 16: 365 Topic 17: 408A-409B, 412-413 Topic 18: 434B Topic 19: 460B-461B Topic 20: 470B-471B</p>

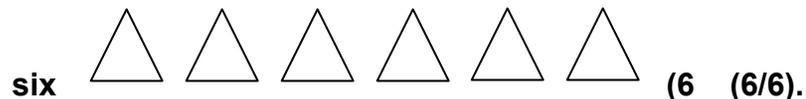
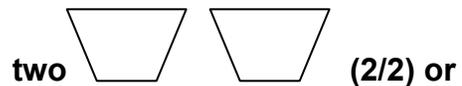
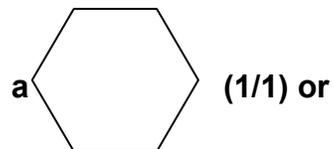
Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>b. place value models (place value mats, hundred charts, base ten blocks, or unifix cubes) to compare, order, and represent numerical quantities and to model computational procedures (1.1.K1a, 1.1.K2a, 1.2.K1-3, 1.3.K1-2, 1.4.K3a-b, 1.4.K3e, 2.2.K4) (\$);</p>	<p>Topic 1: 2A-2H, 2-3, 4A-5, 6-7, 7A-7B, 8A-9B, 10A-11, 12-13, 13A-B, 14A-15B, 16A-17B, 22A-24 Topic 12: 266A-266B, 268A-269B, 270A-271</p>
<p>c. fraction and mixed number models (fraction strips or pattern blocks) and decimal models (base ten blocks or coins) to compare, order, and represent numerical quantities (1.1.K1b-c, 1.1.K2b-c, 1.2.K2, 1.3.K1-2, 1.4.K1f) (\$);</p>	<p>Topic 10: 214A-214F, 214-215, 216A-217, 219A-219B, 220A-221B, 222A-223B, 224A-225, 227A-227B, 228A-229B, 230A-231, 233A-233B, 234A-235B, 236A-237B, 238A-239, 241A-241B</p>
<p>d. money models (base ten blocks or coins) to compare, order, and represent numerical quantities (1.1.K1c, 1.2.K1c, 1.3.K1-2, 1.4.K3a, 1.4.K3a, 1.4.K3c-d, 1.4.K3g, 2.1.K2e, 2.2.K2b) (\$);</p>	<p>Topic 1: 18A-19B, 22</p>
<p>e. function tables (input/output machines, T-tables) to model numerical and algebraic relationships (2.1.K4b, 2.3.K2, 2.3.K4, 3.4.K4) (\$);</p>	<p>Topic 6: 126D, 127, 128B-129B, 130A-131B, 132A-133B, 136-138 Topic 14: 336-338, 339A, 342</p>
<p>f. two-dimensional geometric models (geoboards, dot paper, pattern blocks, or tangrams) to model perimeter, area, and properties of geometric shapes and three-dimensional geometric models (solids) and real-world objects to compare size and to model properties of geometric shapes (2.1.K2c, 2.1.K1e, 3.1.K1-6, 3.2.K5, 3.3.K3);</p>	<p>Topic 9: 194B-194F, 202A-203B, 204A-205B, 206A-207B, 208A-209B, 210-212 Topic 15: 344A-344F, 344-345, 346A-347, 348-349, 349A-349B, 350A-351B, 352A-353B, 354A-355B, 358-360</p>

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>g. two-dimensional geometric models (spinners), three-dimensional models (number cubes), and process models (concrete objects) to model probability (4.1.K1-3) (\$);</p>	<p>Topic 20: 466A-466F, 466-467, 468A-469B, 470A-471B, 472A-473, 474-475, 475A-475B, 476A-477B, 478-481C</p>
<p>h. graphs using concrete objects, pictographs, frequency tables, horizontal and vertical bar graphs, line graphs, circle graphs, Venn diagrams, line plots, charts, and tables to organize and display data (4.1.K2, 4.2.K1-2) (\$);</p>	<p>Topic 17: 400A-400F, 400-401, 402A-403B, 404A-405B, 406A-407B, 408A-409B, 410A-411B, 412A-413B, 414A-415B, 416A-417B, 418A-419B, 420A-421, 422-423, 423A-423B, 424-426</p>
<p>i. Venn diagrams to sort data and show relationships (1.2.K2).</p>	<p>Topic 8: 177 Topic 9: 194B</p>

Grade Four Knowledge Base Indicators

Scott Foresman – Addison Wesley enVisionMATH

2. creates a mathematical model to show the relationship between two or more things, e.g., using pattern blocks, a whole (1) can be represented as



Topic 9: 194C, 203B (Enrichment), 207B (Enrichment)
Topic 10: 214B-214C, 216-218, 219A-219B, 221A, 224-226, 230A-232, 233A-233B, 234-235B, 236B-237, 238A-239, 241, 241B

Standard 3: Geometry – The student uses geometric concepts and procedures in a variety of situations.

Benchmark 1: Geometric Figures and Their Properties – The student recognizes geometric shapes and investigates their properties including the use of concrete objects in a variety of situations.

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. recognizes and investigates properties of plane figures (circles, squares, rectangles, triangles, ellipses, rhombi, octagons, hexagons, pentagons) using concrete objects, drawings, and appropriate technology (2.4.K1f).</p>	<p>Topic 9: 194B-194F, 202A-203B, 204A-205B, 206A-207B, 208A-209B, 210-212</p>
<p>2. recognizes, draws, and describes plane figures (circles, squares, rectangles, triangles, ellipses, rhombi, octagons, hexagons, pentagons) (2.4.K1f).</p>	<p>Topic 9: 194B-194F, 202A-203B, 204A-205B, 206A-207B, 208A-209B, 210-212</p>
<p>3. describes the solids (cubes, rectangular prisms, cylinders, cones, spheres, triangular prisms) using the terms faces, edges, and vertices (corners) (2.4.K1f).</p>	<p>Topic 15: 344A-344F, 344-345, 346A-347, 348-349, 349A-349B, 350A-351B, 352A-353B, 354A-355B, 358-360</p>
<p>4. recognizes and describes the square, triangle, rhombus, hexagon, parallelogram, and trapezoid from a pattern block set (2.4.K1f).</p>	<p>Topic 9: 194B-194F, 202A-203B, 204A-205B, 206A-207B, 208A-209B, 210-212</p>
<p>5. recognizes (2.4.k1f):</p> <p>a. squares, rectangles, rhombi, parallelograms, trapezoids as special quadrilaterals;</p>	<p>Topic 9: 194B-194F, 202A-203B, 206A-207B, 208-209, 210-212</p>
<p>b. similar and congruent figures;</p>	<p>Topic 19: 446B, 446-447, 448A-449B, 450A-451B, 452A-453B, 454A-455B, 456A, 460A-461B, 462-464</p>

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
c. points, lines (intersecting, parallel, perpendicular), line segments, and rays.	Topic 9: 194A-194B, 195, 196A-197B, 198A-199B, 200A-201B, 202A, 204A, 210-212
6. determines if geometric shapes and real-world objects contain line(s) of symmetry and draws the line(s) of symmetry if the line(s) exist(s) (2.4.K1f).	Topic 14: 336A (Daily Spiral Review) Topic 19: 446B-446D, 456A-457B, 458A-459B, 460A-461B, 462-464

Benchmark 2: Measurement and Estimation – The student estimates and measures using standard and nonstandard units of measure including the use of concrete objects in a variety of situations.

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. uses whole number approximations (estimations) for length, width, weight, volume, temperature, time, perimeter, and area using standard and nonstandard units of measure (2.4.K1a) (\$).</p>	<p>Topic 14: 314C, 315, 316-317B, 320-321, 322, 323B, 330 Topic 16: 367, 368A (Problem of the Day), 375, 377, 379, 382, 383B, 385, 386, 394</p>
<p>2. ▲ selects, explains the selection of, and uses measurement tools, units of measure, and degree of accuracy appropriate for a given situation to measure (2.4.K1a) (\$):</p> <p>a. length, width, and height to the nearest fourth of an inch or to the nearest centimeter;</p>	<p>Topic 12: 268A (Daily Spiral Review) Topic 16: 364A-365B, 370B, 371-372, 374A-375B, 394-396</p>

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
b. volume to the nearest cup, pint, quart, or gallon; to the nearest liter; or to the nearest whole unit of a nonstandard unit;	Topic 16: 362C, 363, 366A-367B, 368A (Problem of the Day), 370, 371-372, 376A-377B, 378A, 394-396
c. weight to the nearest ounce or pound or to the nearest whole unit of a nonstandard unit of measure;	Topic 16: 362C, 362F, 368A-369B, 371-372, 394-396
d. temperature to the nearest degree;	Topic 16: 362B, 390A-391B, 394-396
e. time including elapsed time.	Topic 16: 362B, 362D, 370A (Problem of the Day), 384A-385B, 386A-387, 388-389, 389A-389B, 394-396
3. states:	
a. the number of weeks in a year;	Topic 16: 362D, 384-385, 385B
b. the number of ounces in a pound;	Topic 16: 362F, 368A-369B, 370A-371, 372-373, 373A-373B, 394-396
c. the number of milliliters in a liter, grams in a kilogram, and meters in a kilometer;	Topic 16: 374A-375B, 376A-377B, 378A-379B, 380A-381, 382-383, 383A-383B, 384A-385B, 394-396
d. the number of items in a dozen.	Topic 3: 66-67 Topic 16: 369
4. converts (2.4.K1a):	
a. within the customary system: inches and feet, feet and yards, inches and yards, cups and pints, pints and quarts, quarts and gallons;	Topic 16: 364A-365B, 366A-367B, 368A-369B, 370A-371, 372-373, 373A-373B, 386A, 394-396
b. within the metric system: centimeters and meters	Topic 16: 374A-375B, 376A-377B, 378A-379B, 380A-381, 382, 383A-383B, 394-396

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
5. finds(2.4.K1f): a. the perimeter of two-dimensional figures given the measures of all the sides.	Topic 14: 314B-314F, 314-315, 328A-329, 330-331, 331A-331B, 332A-333B, 334A-335B, 336A-337, 340-342 Topic 16: 366A (Problem of the Day)
b. the area of squares and rectangles using concrete objects.	Topic 14: 314A-314F, 314-315, 316A-317B, 318A-319B, 320A-321, 322-323, 323A-323B, 324A-325B, 326A-327B, 332A-333B, 334A-335B, 339, 340-342

Benchmark 3: Transformational Geometry – The student recognizes and performs one transformation on simple shapes or concrete objects in a variety of situations.

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
The student... 1. describes a transformation using cardinal points or positional directions (2.4.K1a), e.g., go north three blocks and then west four blocks or move the triangle three units to the right and two units up.	Topic 19: 446B, 446-447, 448A-449B, 450A-451B, 452A-453B, 454A-455B, 456A, 460A-461B, 462-464
2. ▲■ recognizes, performs, and describes one transformation (reflection/flip, rotation/turn, translation/slide) on a two-dimensional figure or concrete object (2.4.K1a).	Topic 19: 446B, 446-447, 448A-449B, 450A-451B, 452A-453B, 454A-455B, 456A, 460A-461B, 462-464

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
3. recognizes three-dimensional figures (rectangular prisms, cylinders) and concrete objects from various perspectives (top, bottom, sides, corners) (2.4.K1f).	Topic 15: 344A-344F, 344-345, 346A-347, 348-349, 349A-349B, 350A-351B, 352A-353B, 354A-355B, 356A-357B, 358-360

Benchmark 4: Geometry From An Algebraic Perspective – The student relates geometric concepts to a number line and the first quadrant of a coordinate plane in a variety of situations.

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
The student... 1. uses a number line (horizontal/vertical) to model whole number multiplication facts from 1 x 1 through 12 x 12 and corresponding division facts (2.4.K1a).	Topic 12: 266B-266F, 267, 276B-278, 279A-279B, 280A-281B, 282B-283A, 284-286
2. uses points in the first quadrant of a coordinate plane (coordinate grid) to identify locations (2.4.K1a).	Topic 17: 408A-409B, 410A-411B, 424, 426
3. ▲ identifies and plots points as whole number ordered pairs in the first quadrant of a coordinate plane (coordinate grid) (2.4.K1a).	Topic 17: 408A-409B, 410A-411B, 424, 426
4. organizes whole number data using a T-table and plots the ordered pairs in the first quadrant of a coordinate plane (coordinate grid) (2.4.K1a,e).	Topic 6: 126D, 127, 128B-129B, 130A-131B, 132A-133B, 136-138 Topic 14: 336-338, 339A, 342 Topic 17: 408A-409B, 410A-411B, 424, 426

Standard 4: Data – The student uses concepts and procedures of data analysis in a variety of situations.

Benchmark 1: Probability – The student applies the concepts of probability to draw conclusions and to make predictions and decisions including the use of concrete objects in a variety of situations.

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. recognizes that the probability of an impossible event is zero and that the probability of a certain event is one (2.4.K1g) (\$).</p>	<p>Topic 20: 466A-466F, 466-467, 468A-469B, 470A-471B, 472A-473, 474-475, 475A-475B, 476A-477B, 478-481C</p>
<p>2. lists all possible outcomes of a simple event in an experiment or simulation including the use of concrete objects (2.4.K1g-h).</p>	<p>Topic 20: 466B, 466D, 468A-469B, 470A-471B, 472A (Problem of the Day), 478-481</p>
<p>3. ■ recognizes and states the probability of a simple event in an experiment or simulation (2.4.K1g), e.g., when a coin is flipped, the probability of landing heads up is $\frac{1}{2}$ and the probability of landing tails up is $\frac{1}{2}$. This can be read as one out of two or one half.</p>	<p>Topic 20: 466A-466F, 466-467, 468A-469B, 470A-471B, 472A-473, 474-475, 475A-475B, 476A-477B, 478-481C</p>

Benchmark 2: Statistics – The student collects, organizes, displays, explains, and interprets numerical (whole numbers) and non-numerical data sets including the use of concrete objects in a variety of situations.

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. ▲■ organizes, displays, and reads numerical (quantitative) and non-numerical (qualitative) data in a clear, organized, and accurate manner including a title, labels, categories, and whole number intervals using these data displays (2.4.K1h) (\$):</p> <p>a. graphs using concrete objects; (for testing, does not have to use concrete objects in items);</p>	<p>Students construct and interpret bar graphs, line graphs, and circle graphs. Topic 17: 400D, 400E, 404B-405B, 410A-411B, 418A-419B, 420A-421, 423, 423A-423B, 424-429</p>
<p>b. pictographs with a symbol or picture representing one, two, five, ten, twenty-five, or one-hundred including partial symbols when the symbol represents an even amount;</p>	<p>Students construct and interpret bar graphs, line graphs, and circle graphs. Topic 17: 400D, 400E, 404B-405B, 410A-411B, 418A-419B, 420A-421, 423, 423A-423B, 424-429</p>
<p>c. frequency tables (tally marks);</p>	<p>Topic 17: 401, 402B-403B, 420-421, 425A, 426</p>
<p>d. horizontal and vertical bar graphs;</p>	<p>Topic 17: 400D, 400E, 404B-405B, 420A-421, 423, 423A-423B, 424-429</p>
<p>e. Venn diagrams or other pictorial displays, e.g., glyphs;</p>	<p>Topic 8: 177 Topic 9: 194B</p>
<p>f. line plots;</p>	<p>Topic 17: 406A-407B, 415, 424-427</p>

Grade Four Knowledge Base Indicators	Scott Foresman – Addison Wesley enVisionMATH
g. charts and tables;	Topic 6: 128B-129B, 130A-131B, 132A-133B Topic 14: 336-338, 339A, 342 Topic 17: 401, 402B-403B, 411B, 413B (Reteaching), 417B (Enrichment), 418A (Problem of the Day), 420-421, 422-423, 424-428
h. line graphs;	Topic 17: 410A-411B, 424-427
i. circle graphs.	Topic 17: 418A-419B, 424
2. collects data using different techniques (observations, polls, surveys, interviews, or random sampling) and explains the results (2.4.K1h) (\$).	Topic 17: 400D, 401, 402A-403B
3. identifies, explains, and calculates or finds these statistical measures of a data set with less than ten whole number data points using whole numbers from 0 through 1,000 (2.4.K1a) (\$):	
a. minimum and maximum values,	Topic 17: 400F, 414A-415B, 424-425B
b. range,	Topic 17: 414A-415B, 424-425B
c. mode,	Topic 17: 400D, 414A-415B, 424-425B
d. median when data set has an odd number of data points,	Topic 17: 400D, 400F, 414-415B, 424-425B
e. mean when data set has a whole number mean.	Topic 17: 400D, 412A-413B, 424-425B

**Scott Foresman – Addison Wesley enVisionMATH
to the
Kansas Curricular Standards for Mathematics**

Application Indicators

Grade Four

Standard 1: Number and Computation – The student uses numerical and computational concepts and procedures in a variety of situations.

Benchmark 1: Number Sense – The student demonstrates number sense for whole numbers, fractions (including mixed numbers), decimals, and money including the use of concrete objects in a variety of situations.

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. solves real-world problems using equivalent representations and concrete objects to (\$):</p> <p>a. compare and order whole numbers from 0 through 100,000 (2.4.A1a-b); e.g., using base ten blocks, represent the attendance at the circus over a three day stay; then represent the numbers using digits and compare and order in different ways;</p>	<p>Topic 1: 10A-11, 12-13, 13A-13B, 22-25 Topic 10: 237 Topic 18: 438A-439B, 443A</p>

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>b. add and subtract whole numbers from 0 through 10,000 and decimals when used as monetary amounts (2.4.A1a-d), e.g., use real money to show at least 2 ways to represent \$142.78, then subtract the cost of a pair of tennis shoes;</p>	<p>Topic 1: 18A-19B Topic 2: 26A-26F, 26-27, 28A-29, 30-31, 31A-31B, 32A-33B, 36A-37, 38-39, 39A-39B, 40A-41B, 42A-43B, 44A-45, 47A-47B Topic 13: 300A-303B</p>
<p>c. multiply a one-digit whole number by a two-digit whole number (2.4.A1a-b), e.g., use base ten blocks to represent 24×5 to find the total number of hours in 5 days, or use repeated addition $24 + 24 + 24 + 24 + 25$ to solve, or use the algorithm.</p>	<p>Topic 5: 96A-97B, 98A-99B, 110A-112, 113A-113B, 114A-115B, 121-122 Topic 7: 140-141, 142A-143B, 146A-147, 148-149, 149A-149B, 150A-151B, 152A-153B, 154A-155B, 158-160</p>
<p>2. determines whether or not solutions to real-world problems that involve the following are reasonable (\$):</p> <p>a. whole numbers from 0 through 10,000 (2.4.A1a-b), e.g., a student says that there are 1,000 students in grade 4 at her school, is this reasonable?</p>	<p>Topic 5: 96, 101, 102A-104, 105A-105B, 106 Topic 7: 146, 153 Topic 8: 166, 169, 170</p>
<p>b. fractions greater than or equal to zero (halves, fourths, thirds, eighths, tenths, sixteenths) (2.4.A1c), e.g., you ate $\frac{1}{2}$ of a sandwich and a friend ate $\frac{3}{4}$ of the same sandwich; is this reasonable?</p>	<p>Topic 11: 252-253, 255, 257</p>
<p>c. decimals greater than or equal to zero when used as monetary amounts (2.4.A1c-d), e.g., a pack of chewing gum costs what amount - \$62 \$.75 9¢ 75.00 750¢? Is this reasonable?</p>	<p>Topic 13: 290, 292, 294, 300, 307</p>

Benchmark 2: Number Systems and Their Properties – The student demonstrates an understanding of whole numbers with a special emphasis on place value; recognizes, uses, and explains the concepts of properties as they relate to whole numbers; and extends these properties to fractions (including mixed numbers), decimals, and money.

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. solves real-world problems with whole numbers from 0 through 10,000 using place value models; money; and the concepts of these properties to explain reasoning (2.4.A1a-b,d) (\$):</p> <p>a. commutative properties of addition and multiplication, e.g., a student has a \$5, a \$10, and a \$20 bill; a student totals the amount to see how much can be spent shopping for school supplies. The student says: Because you can add in any order, I can rearrange the money and count \$20, \$10, and \$5 for $\\$20 + \\$10 + \\$5$. Another student has 4 \$5 bills. The student is asked the amount. The student says: I don't know 4×5 but I know 5×4 is \$20, since multiplication can be done in any order.</p>	<p>Topic 3: 52E-52F, 53, 60A-61B Topic 4: 79</p>
<p>b. zero property of addition, e.g., a student has 6 marbles in one pocket and none in the other pocket. How many marbles altogether?</p>	<p>Topic 2: 28-29</p>

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>c. property of one for multiplication, e.g., there are 24 students in our class, each student should have one math book; so I compute $24 \times 1 = 24$. Multiplying times 1 does not change the product because it is one group of 24.</p>	<p>Topic 3: 52E-52F, 53, 60A-61B Topic 4: 79</p>
<p>d. associative properties of addition and multiplication, e.g., a student has two dimes and a quarter. Using coins or money models, there are at least 2 ways to group the coins to find the total. One way is 10¢ (dime) + 10¢ (dime) = 20¢, then add the quarter, so $20\text{¢} + 25\text{¢}$ (quarter) = 45¢. Another way 10¢ (dime) + 25¢ (quarter) = 35¢, then add the other dime to 35¢ so $35\text{¢} + 10\text{¢} = 45\text{¢}$. This models that $(D + D) + Q = D + (D + Q)$.</p>	<p>Topic 2: 28A-30, 31A-31B Topic 3: 52D, 52, 66 (#5) Topic 4: 79 Topic 5: 98A-99B Topic 7: 150A-151B</p>
<p>e. zero property of multiplication, e.g., in science, you are observing a snail. The snail does not move over a 4-hour period. To figure its total movement, you say $4 \times 0 = 0$.</p>	<p>Topic 3: 52E-52F, 53, 60A-61B Topic 4: 79</p>
<p>2. performs various computational procedures with whole numbers from 0 through 10,000 using the concepts of the following properties; extends the properties to fractions (halves, fourths, thirds, eighths, tenths, sixteenths) including mixed numbers, and decimals through hundredths place; and explains how the properties were used (2.4.A1a-c):</p>	

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>a. commutative property of addition and multiplication, e.g., $5 + 6 = 6 + 5$, the student says: I know that $5 + 6 = 11$ and adding in any order still gets the answer, so $6 + 5$ is the same as $5 + 6$. $4 \times 6 = 6 \times 4$, the student says: I know that $4 \times 6 = 24$ and multiplying in any order still gets the answer, so 4×6 is the same as 6×4.</p>	<p>Topic 3: 52E-52F, 53, 60A-61B Topic 4: 79</p>
<p>b. zero property of multiplication without computing, e.g., $158 \times 0 = 0$; the student says: I know the answer (product) is zero because no matter how many factors you have, when you multiply with a 0, the product is zero.</p>	<p>Topic 3: 52E-52F, 53, 60A-61B Topic 4: 79</p>
<p>c. associative property of addition, e.g., $9 + 8$ could be solved as $1 + (8 + 8)$ or $(1 + 8) + 8$, the student says: I don't know $9 + 8$, but I know my doubles of $8 + 8$, so I made the 9 into $1 + 8$ and then added 1 more to make 17.</p>	<p>Topic 2: 28A-30, 31A-31B</p>
<p>3. states the reason for using whole numbers, fractions, mixed numbers, or decimals when solving a given real-world problem (2.4.A1a-d).</p>	<p>Topic 1: 2A-2H, 2-3, 4A-5, 6-7, 7A-7B Topic 10: 214A-214F, 214-215, 216A-217, 220A-221B, 222A-223B Topic 12: 266A-266F, 266-267, 268A-269B, 270A-271, 274A-275B</p>

Benchmark 3: Estimation – The student uses computational estimation with whole numbers, fractions (including mixed numbers) and money in a variety of situations.

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. adjusts original whole number estimates of a real-world problem using numbers from 0 through 10,000 based on additional information (a frame of reference) (2.4.A1a) (\$), e.g., if given a small jar and told the number of pieces of candy it has in it, the student would adjust his/her original estimate of the number of pieces of candy in a larger jar.</p>	<p>Topic 2: 32A-33B Topic 5: 100A-101B, 102A-104, 105A-105B Topic 7: 144A-145B Topic 8: 166A-167B Topic 10: 222A-223B Topic 13: 290A-292, 293A-293B, 294A-295B, 300-301 Topic 14: 316-317</p>
<p>2. estimates to check whether or not the result of a real-world problem using whole numbers from 0 through 10,000, fractions (including mixed numbers), and monetary amounts is reasonable and makes predictions based on the information (2.4.A1a-d) (\$), e.g., at the movies, you bought popcorn for \$2.35, a soda for \$2.50, and paid \$4.50 for the ticket. Is it reasonable to say you spent \$10? How much will you need to save to go to the movies once a week for the next month?</p>	<p>Topic 2: 32A-33B Topic 5: 100A-101B, 102A-104, 105A-105B Topic 7: 144A-145B Topic 8: 166A-167B Topic 10: 222A-223B Topic 13: 290A-292, 293A-293B, 294A-295B, 300-301 Topic 14: 316-317</p>

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>3. selects a reasonable magnitude from three given quantities based on a familiar problem situation and explains the reasonableness of selection (2.4.A1a), e.g., about how many new pencils will fit in your pencil box? Is it about 25, about 50, or about 100? The answer will depend on the size of your pencil box.</p>	<p>Topic 2: 32A-33B Topic 5: 100A-101B, 102A-104, 105A-105B Topic 7: 144A-145B Topic 8: 166A-167B Topic 10: 222A-223B Topic 13: 290A-292, 293A-293B, 294A-295B, 300-301 Topic 14: 316-317</p>
<p>4. determines if a real-world problem calls for an exact or approximate answer and performs the appropriate computation using various computational methods including mental math, paper and pencil, concrete objects, and appropriate technology (2.4.A1a) (\$).</p>	<p>Topic 2: 32A-33B Topic 5: 100A-101B, 102A-104, 105A-105B Topic 7: 144A-145B Topic 8: 166A-167B Topic 10: 222A-223B Topic 13: 290A-292, 293A-293B, 294A-295B, 300-301 Topic 14: 316-317</p>

Benchmark 4: Computation – The student models, performs, and explains computation with whole numbers, fractions, and money including the use of concrete objects in a variety of situations.

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. ▲N solves one- and two-step real-world problems with one or two operations using these computational procedures (\$):</p> <p>a. adds and subtracts whole numbers from 0 through 10,000 and when used as monetary amounts (2.4.A1a-b,d), e.g., Lee buys a bicycle for \$139, a helmet for \$29, and a reflector for \$6. He paid for it with a \$200 check from his grandparents. How much will he have left from the \$200 check?</p>	<p>Topic 1: 18A-19B Topic 2: 26A-26F, 26-27, 28A-29, 30-31, 31A-31B, 32A-33B, 36A-37, 38-39, 39A-39B, 40A-41B, 42A-43B, 44A-45, , 47A-47B, 48-50</p>
<p>b. multiplies through a two-digit whole number by a two-digit whole number (2.4.A1a-b), e.g., at school, there are 22 students in each classroom. If there are 24 classes, how many students are in the classrooms?</p>	<p>Topic 5: 96A-97B, 98A-99B, 110A-112, 113A-113B, 114A-115B, 121-122 Topic 7: 140-141, 142A-143B, 146A-147, 148-149, 149A-149B, 150A-151B, 152A-153B, 154A-155B, 158-160</p>
<p>c. multiplies whole dollar monetary amounts (up through three-digit) by a one- or two-digit whole number (2.4.A1a-b,d), e.g., 112 third and fourth graders are planning a field trip. The cost per student is \$9.00. How much will the trip cost?</p>	<p>Topic 5: 97, 99, 115, 115B (Enrichment), 120 Topic 7: 156B-157</p>

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
d. multiplies monetary amounts less than \$100 by whole numbers less than ten (2.4.A1a-d), e.g., at the book fair, a student buys 8 books on animals for \$2.69 each. How much did the student pay for the books?	Topic 13: 289, 304B, 305B, 306A, 309, 311A
e. ■ figures correct change through \$20.00 (2.4.A1a-d), e.g., buying a 65¢ drink, paying for it with a \$1 bill, and then figuring the amount of change.	Topic 1: 18A-19B, 22-25
2. generates a family of multiplication and division facts given one equation/fact (2.4.A1b), e.g., given $8 \times 9 = 72$, the other facts are $9 \times 8 = 72$, $72 \div 8 = 9$, and $72 \div 9 = 8$.	Topic 4: 74C, 75, 80A-81B, 82A, 82-83A, 84A-85B, 89, 90-93B

Standard 2: Algebra – The student uses algebraic concepts and procedures in a variety of situations.

Benchmark 1: Patterns – The student recognizes, describes, extends, develops, and explains relationships in patterns using concrete objects in a variety of situations.

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. generalizes these patterns using a written description:</p> <p>a. counting numbers related to number theory (2.4.A1a),</p>	<p>Topic 1: 20-21</p> <p>Topic 3: 58B-59, 59B</p> <p>Topic 5: 108</p> <p>Topic 6: 128A-129B, 130-131B, 132-133B, 136-139</p>

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
b. whole number patterns (2.4.A1a) (\$),	Topic 1: 20-21 Topic 3: 58B-59, 59B Topic 5: 108 Topic 6: 128A-129B, 130-131B, 132-133B, 136-139
c. patterns using geometric shapes (2.4.A1f),	Topic 9: 205B (Enrichment) Topic 12: 278 Topic 14: 336-337 Topic 19: 448, 462
d. measurement patterns (2.4.A1a),	Topic 12: 278 Topic 14: 336-338
e. money and time patterns (2.4.A1a,d) (\$),	Topic 1: 18A-19B, 20, 22 Topic 5: 120 (#12) Topic 7: 156B-156 Topic 13: 305B, 306A, 309, 311A Topic 16: 385, 386A-387, 388-389, 389A-389B, 392A-393B, 394-395A
f. patterns using size, shape, color, texture, or movement (2.4.A1a).	Topic 9: 205B (Enrichment) Topic 12: 278 Topic 14: 336-337 Topic 19: 448, 462

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>2. recognizes multiple representations of the same pattern (2.4.A1a), e.g., skip counting by 5s to 60; whole number multiples of 5 through 60; the multiplication table of 5 given the numerical pattern of 5, 10, 15, ..., 60; relating the concept of five minute time intervals to each of the numerals on a clock giving the pattern of 5, 10, 15, ..., 60; one nickel, two nickels, three nickels, ...; the number of fingers on twelve hands; recognizing that all of these representations are the same general pattern.</p>	<p>Topic 1: 20B, 20-21 Topic 3: 58B-59, 59B Topic 5: 108 Topic 6: 128A-129B, 130-131B, 132-133B, 136-139 Topic 9: 205B (Enrichment) Topic 12: 278 Topic 14: 336-338 Topic 19: 448, 462</p>

Benchmark 2: Variables, Equations, and Inequalities – The student uses variables, symbols, and whole numbers to solve equations including the use of concrete objects in a variety of situations.

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. represents real-world problems using variables and symbols with unknown whole number quantities from 0 through 1,000 (2.4.A1a) (\$), e.g., How many weeks in twenty-eight days? can be represented by $n \times 7 = 28$ or $n = 28 \div 7$.</p>	<p>Topic 2: 35, 44B-46, 48-49, 50 Topic 3: 62, 64A (Daily Spiral Review), 64, 66, 70, 71A Topic 6: 126C, 126E-126F, 128B-129B, 130A-131B, 132A-133B, 135, 136-138 Topic 18: 434A-435B, 436A-437B, 438A-439B, 440B, 442-444</p>
<p>2. generates one-step equations to solve real-world problems with one unknown (represented by a variable or symbol) and a whole number solution that (2.4.A1a) (\$):</p> <p>a. add or subtract whole numbers from 0 through 1,000; e.g., Homer, Kansas has 832 nonfiction books in its library. Homer, Idaho has 652 nonfiction books in its library. How many fewer books nonfiction books are in Homer, Idaho’s library? $832 - 652 = B$;</p>	<p>Topic 18: 434A-435B, 438A, 440B, 442-444</p>
<p>b. multiply or divide using the basic facts, e.g., Tom has a sticker book and each page holds 5 stickers. If the same number of stickers is placed on each page, the book will hold 30 stickers. How many pages are in his book? This is represented by $5 \times S = 30$ or $30 \div 5 = S$.</p>	<p>Topic 18: 436A-437B, 438A, 442-444</p>

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>3. generates (2.4.A1a) (\$):</p> <p>a. real-world problems with one operation to match a given addition, subtraction, multiplication, or division equation using whole numbers through 99, e.g., given $12 \times 3 = Y$, the student writes: I was sick for 3 days, when I got back I had 3 pages of homework. There are 12 problems on each page. How many total problems must I work?</p>	<p>Topic 2: 35, 44B-46, 48-49, 50 Topic 3: 62, 64A (Daily Spiral Review), 64, 66, 70, 71A Topic 6: 126C, 126E-126F, 128B-129B, 130A-131B, 132A-133B, 135, 136-138 Topic 18: 434A-435B, 436A-437B, 438A-439B, 440B, 442-444</p>
<p>b. number comparison statements using equality and inequality symbols ($=$, $<$, $>$) with whole numbers, measurement, and money, e.g., $1 \text{ ft} < 15 \text{ in}$ or $10 \text{ quarters} > \\$2$.</p>	<p>Topic 1: 10A-11, 12-13, 13A-13B, 22-25 Topic 10: 237 Topic 18: 438A-439B, 443A</p>

Benchmark 3: Functions – The student recognizes and describes whole number relationships including the use of concrete objects in a variety of situations.

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. ▲ represents and describes mathematical relationships between whole numbers from 0 through 1,000 using concrete objects, pictures, written descriptions, symbols, equations, tables, and graphs (2.4.A1a) (\$).</p>	<p>Topic 2: 44A-46, 47B, 48, 50 Topic 4: 74F, 88 Topic 10: 219 Topic 13: 303 Topic 18: 430F, 432B, 433, 434A-435B, 436A-437B, 438A-439B, 440A-441A, 442</p>

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2. finds the rule, states the rule, and extends numerical patterns using real-world applications using whole numbers from 0 through 200 (2.4.A1a,e), e.g., the teacher must order supplies for field day. For every 12 students, one red rubber ball is needed. If 6 balls are ordered, how many students will be able to play? A solution using a function table might be:

Number of Students	Number of Balls
12	1
24	2
36	3
48	4
60	5
72	6
N	$N \div 12$

The rule is divide the number of students by 12 or for each group of 12 students, another ball is added. Other solutions might be using a pattern to count by 12 six times – 12, 24, 36, 48, 60, 72 or to skip count by 12 for each ball ordered.

Topic 6: 126D, 127, 128B-129B, 130A-131B, 132A-133B, 136-138

Topic 14: 336-338, 339A, 342

Benchmark 4: Models – The student develops and uses mathematical models including the use of concrete objects to represent and explain mathematical relationships in a variety of situations.

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. recognizes that various mathematical models can be used to represent the same problem situation. Mathematical models include:</p> <p>a. process models (concrete objects, pictures, diagrams, number lines, coordinate planes/grids, hundred charts, measurement tools, multiplication arrays, or division sets) to model computational procedures, mathematical relationships, and problem situations (1.1.A1, 1.1.A2a, 1.2.A1-3, 1.3.A1-4, 1.4.A1, 2.1.A1a-b, 2.1.A1d-f, 2.1.A2, 2.2.A1-3, 2.3.A1-2, 3.2.A1a-g, 3.2.A2-3, 3.3.A1-2, 3.4.A1-2, 4.2.A2) (\$);</p>	<p>Topic 7: 146B-148, 149B Topic 8: 170B-171, 173B Topic 12: 276B-278, 279A-279B, 282B-283B Topic 13: 296B-298, 299A-299B Topic 16: 365 Topic 17: 408A-409B, 412-413 Topic 18: 434B Topic 19: 460B-461B Topic 20: 470B-471B</p>
<p>b. place value models (place value mats, hundred charts, base ten blocks, or unifix cubes) to model problem situations (1.1.A1, 1.1.A2a, 1.2.A1-3, 1.3.A2, 1.4.A1) (\$);</p>	<p>Topic 1: 2A-2H, 2-3, 4A-5, 6-7, 7A-7B, 8A-9B, 10A-11, 12-13, 13A-B, 14A-15B, 16A-17B, 22A-24 Topic 12: 266A-266B, 268A-269B, 270A-271</p>
<p>c. fraction and mixed number models (fraction strips or pattern blocks) and decimal models (base ten blocks or coins) to compare, order, and represent numerical quantities (1.1.A1b, 1.1.A2b-c, 1.2.A2-3, 1.3.A2, 1.4.A1d-e) (\$);</p>	<p>Topic 10: 214A-214F, 214-215, 216A-217, 219A-219B, 220A-221B, 222A-223B, 224A-225, 227A-227B, 228A-229B, 230A-231, 233A-233B, 234A-235B, 236A-237B, 238A-239, 241A-241B</p>

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
d. money models (base ten blocks or coins) to compare, order, and represent numerical quantities (1.1.A1b, 1.1.A2c, 1.2.A1, 1.2.A3, 1.3.A1, 1.4.A1a, 1.4.A1c-e, 2.1.A1e) (\$);	Topic 1: 18A-19B, 22
e. function tables (input/output machines, T-tables) to model numerical and algebraic relationships (2.3.A2) (\$);	Topic 6: 126D, 127, 128B-129B, 130A-131B, 132A-133B, 136-138 Topic 14: 336-338, 339A, 342
f. two-dimensional geometric models (geoboards, dot paper, pattern blocks, or tangrams) to model perimeter, area, and properties of geometric shapes and three-dimensional geometric models (solids) and real-world objects to compare size and to model properties of geometric shapes (2.1.A1c, 3.1.A1-2, 3.2.A1h, 3.3.A3);	Topic 9: 194B-194F, 202A-203B, 204A-205B, 206A-207B, 208A-209B, 210-212 Topic 15: 344A-344F, 344-345, 346A-347, 348-349, 349A-349B, 350A-351B, 352A-353B, 354A-355B, 358-360
g. two-dimensional geometric models (spinners), three-dimensional geometric models (number cubes), and process models (concrete objects) to model probability (4.1.A1-3) (\$);	Topic 20: 466A-466F, 466-467, 468A-469B, 470A-471B, 472A-473, 474-475, 475A-475B, 476A-477B, 478-481C
h. graphs using concrete objects, pictographs, frequency tables, horizontal and vertical bar graphs, line graphs, Venn diagrams, line plots, charts, and tables to organize, display, explain, and interpret data (4.1.A2, 4.2.A1, 4.2.A3-4) (\$);	Topic 17: 400A-400F, 400-401, 402A-403B, 404A-405B, 406A-407B, 408A-409B, 410A-411B, 412A-413B, 414A-415B, 416A-417B, 418A-419B, 420A-421, 422-423, 423A-423B, 424-426
i. Venn diagrams to sort data and show relationships.	Topic 8: 177 Topic 9: 194B

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>2. selects a mathematical model and explains why some mathematical models are more useful than other mathematical models in certain situations.</p>	<p>Topic 7: 146B-148, 149B Topic 8: 170B-171, 173B Topic 12: 276B-278, 279A-279B, 282B-283B Topic 13: 296B-298, 299A-299B Topic 16: 365 Topic 17: 408A-409B, 412-413 Topic 18: 434B Topic 19: 460B-461B Topic 20: 470B-471B</p>

Standard 3: Geometry – The student uses geometric concepts and procedures in a variety of situations.

Benchmark 1: Geometric Figures and Their Properties – The student recognizes geometric shapes and investigates their properties including the use of concrete objects in a variety of situations.

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. solves real-world problems by applying the properties of (2.4.A1f):</p> <p>a. plane figures (circles, squares, rectangles, triangles, ellipses, rhombi, parallelograms, hexagons) and lines of symmetry, e.g., print your name or the school’s name in all capital letters. Identify the lines of symmetry in each letter.</p>	<p>Topic 9: 194B-194F, 202A-203B, 204A-205B, 206A-207B, 208A-209B, 210-212</p>

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
b. solids (cubes, rectangular prisms, cylinders, cones, spheres), e.g., you want to design something to store school supplies. Which of the solids could you use for storage? Why did you select that solid?	Topic 15: 344A-344F, 344-345, 346A-347, 348-349, 349A-349B, 350A-351B, 352A-353B, 354A-355B, 358-360
2. ▲ ■ identifies the plane figures (circles, squares, rectangles, triangles, ellipses, rhombi, octagons, hexagons, pentagons, trapezoids) used to form a composite figure (2.4.A1f).	Topic 9: 194C, 203B (Enrichment), 207B (Enrichment)

Benchmark 2: Measurement and Estimation – The student estimates and measures using standard and nonstandard units of measure including the use of concrete objects in a variety of situations.

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
The student... 1. solves real-world problems by applying appropriate measurements: a. length to the nearest fourth of an inch (2.4.A1a), e.g., how much longer is the math textbook than the science textbook?	Topic 12: 268A (Daily Spiral Review) Topic 16: 364A-365B, 370B, 371-372, 394-396
b. length to the nearest centimeter (2.4.A1a), e.g., a new pencil is about how many centimeters long?	Topic 16: 374A-375B, 394-396

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
c. temperature to the nearest degree (2.4.A1a), e.g., what would the temperature outside be if it was a good day for sledding?	Topic 16: 362B, 390A-391B, 394-396
d. weight to the nearest whole unit (pounds, grams, nonstandard unit) (2.4.A1a), e.g., Brendan went to the store and bought 2 packages of hamburger for a meatloaf. One of the hamburger packages weighed 1 lb. and 8 ozs. The other packages weighed 1 lb. and 7 ozs. What is the combined weight (to the nearest pound) of the two packages of hamburger?	Topic 16: 362C, 362F, 368A-369B, 371-372, 394-396
e. time including elapsed time (2.4.A1a), e.g., Joy went to the mall at 10:00 a.m. She shopped until 4:15 p.m. How long did she shop at the mall?	Topic 16: 362B, 362D, 370A (Problem of the Day), 384A-385B, 386A-387, 388-389, 389A-389B, 394-396
f. months in a year (2.4.A1a), e.g., if it takes 208 weeks to get a college degree, and Susan has completed one year, how many more weeks does she have to complete to get her degree?	Topic 16: 362D, 384-385, 385B
g. minutes in an hour (2.4.A1a), e.g., Bob has spent 240 minutes working on a project for Science. How many hours has he worked on the project?	Topic 16: 362D, 384-385, 385B
h. perimeter of squares, rectangles, and triangles (2.4.A1f), e.g., a triangle has 3 equal sides of 32 inches. What is the perimeter of the triangle?	Topic 14: 314B-314F, 314-315, 328A-329, 330-331, 331A-331B, 332A-333B, 334A-335B, 336A-337, 340-342 Topic 16: 366A (Problem of the Day)

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>2. ▲ estimates to check whether or not measurements and calculations for length, width, weight, volume, temperature, time, and perimeter in real-world problems are reasonable (2.4.A1a) (\$), e.g., which is the most reasonable weight for your scissors – 2 ounces, 2 pounds, 20 ounces, or 20 pounds? A teacher measures one side of a square desktop at 2 feet. Which of the following perimeters is reasonable for the desktop – 2 feet, 4 square feet, 6 square feet, or 8 feet?</p>	<p>Topic 14: 314C, 315, 316-317B, 320-321, 322, 323B, 330 Topic 16: 367, 368A (Problem of the Day), 375, 377, 379, 382, 383B, 385, 386, 394</p>
<p>3. adjusts original measurement or estimation for length, width, weight, volume, temperature, time, and perimeter in real-world problems based on additional information (a frame of reference) (2.4.A1a) (\$), e.g., your class has a large jar and a small jar. You estimate it will take 5 small jars of liquid to fill the large jar. After you pour the contents of 2 small jars in, the large jar is more that half full. Should you need to adjust your estimate?</p>	<p>Topic 14: 314C, 315, 316-317B, 320-321, 322, 323B, 330 Topic 16: 367, 368A (Problem of the Day), 375, 377, 379, 382, 383B, 385, 386, 394</p>

Benchmark 3: Transformational Geometry – The student recognizes and performs one transformation on simple shapes or concrete objects in a variety of situations.

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. recognizes real-world transformations (reflection/flip, rotation/turn, translation/slide) (2.4.A1a).</p>	<p>Topic 19: 449, 451, 453, 455, 460-461, 464</p>
<p>2. gives and uses cardinal points or positional directions to move from one location to another on a map or grid (2.4.A1a).</p>	<p>Topic 19: 446B, 446-447, 448A-449B, 450A-451B, 452A-453B, 454A-455B, 456A, 460A-461B, 462-464</p>
<p>3. describes the properties of geometric shapes or concrete objects that stay the same and the properties that change when a transformation is performed (2.4.A1f).</p>	<p>Topic 19: 446B, 446-447, 448A-449B, 450A-451B, 452A-453B, 454A-455B, 456A, 460A-461B, 462-464</p>

Benchmark 4: Geometry From An Algebraic Perspective – The student relates geometric concepts to a number line and the first quadrant of a coordinate plane in a variety of situations.

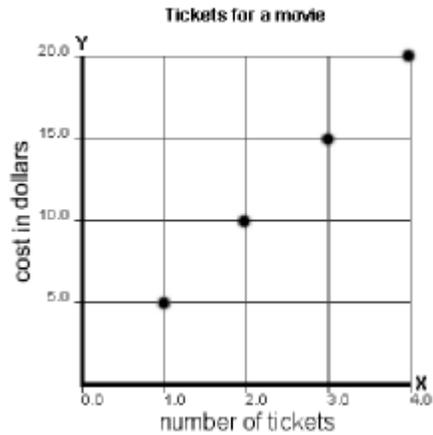
Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. solves real-world problems that involve distance and location using coordinate planes (coordinate grids) and map grids with positive whole number and letter coordinates (2.4.A1a), e.g., identifying locations and giving and following directions to move from one location to another.</p>	<p>Topic 17: 408A-409B, 410A-411B, 424, 426</p>

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2. solves real-world problems by plotting whole number ordered pairs in the first quadrant of a coordinate plane (coordinate grid) (2.4.A1a) (\$), e.g., given that each movie ticket cost \$5, the student graphs the number of tickets bought and the total cost of tickets to attend a movie.

Topic 17: 408A-409B, 410A-411B, 424, 426



Standard 4: Data – The student uses concepts and procedures of data analysis in a variety of situations.

Benchmark 1: Probability – The student applies the concepts of probability to draw conclusions and to make predictions and decisions including the use of concrete objects in a variety of situations.

Grade Four Application Indicators	Scott Foresman – Addison Wesley enVisionMATH
<p>The student...</p> <p>1. makes predictions about a simple event in an experiment or simulation; conducts an experiment or simulation including the use of concrete objects; records the results in a chart, table, or graph; and uses the results to draw conclusions about the event (2.4.A1g-h).</p>	<p>Topic 20: 466A-466F, 466-467, 468A-469B, 470A-471B, 472A-473, 474-475, 475A-475B, 476A-477B, 478-481C</p>
<p>2. uses the results from a completed experiment or simulation of a simple event to make predictions in a variety of real-world problems (2.4.A1g-h), e.g., the manufacturer of Crunchy Flakes puts a prize in 20 out of every 100 boxes. What is the probability that a shopper will find a prize in a box of Crunchy Flakes, if they purchase 10 boxes?</p>	<p>Topic 20: 466A-466F, 466-467, 468A-469B, 470A-471B, 472A-473, 474-475, 475A-475B, 476A-477B, 478-481C</p>
<p>3. compares what should happen (theoretical probability/expected results) with what did happen (empirical probability/experimental results) in an experiment or simulation with a simple event (2.4.A1g).</p>	<p>Topic 20: 466A-466F, 466-467, 468A-469B, 470A-471B, 472A-473, 474-475, 475A-475B, 476A-477B, 478-481C</p>

Benchmark 2: Statistics – The student collects, organizes, displays, explains, and interprets numerical (whole numbers) and non-numerical data sets including the use of concrete objects in a variety of situations.

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<p>The student...</p> <p>1. interprets and uses data to make reasonable inferences and predictions, answer questions, and make decisions from these data displays (2.4.A1h) (\$):</p> <p>a. graphs using concrete objects;</p>	<p>Students construct and interpret bar graphs, line graphs, and circle graphs. Topic 17: 400D, 400E, 404B-405B, 410A-411B, 418A-419B, 420A-421, 423, 423A-423B, 424-429</p>
<p>b. pictographs with a symbol or picture representing one, two, five, ten, twenty-five, or one-hundred including partial symbols when the symbol represents an even amount;</p>	<p>Students construct and interpret bar graphs, line graphs, and circle graphs. Topic 17: 400D, 400E, 404B-405B, 410A-411B, 418A-419B, 420A-421, 423, 423A-423B, 424-429</p>
<p>c. frequency tables (tally marks);</p>	<p>Topic 17: 401, 402B-403B, 420-421, 425A, 426</p>
<p>d. horizontal and vertical bar graphs;</p>	<p>Topic 17: 400D, 400E, 404B-405B, 420A-421, 423, 423A-423B, 424-429</p>
<p>e. Venn diagrams or other pictorial displays;</p>	<p>Topic 8: 177 Topic 9: 194B</p>
<p>f. line plots;</p>	<p>Topic 17: 406A-407B, 415, 424-427</p>

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g. charts and tables;	Topic 6: 128B-129B, 130A-131B, 132A-133B Topic 14: 336-338, 339A, 342 Topic 17: 401, 402B-403B, 411B, 413B (Reteaching), 417B (Enrichment), 418A (Problem of the Day), 420-421, 422-423, 424-428
h. line graphs.	Topic 17: 410A-411B, 424-427
2. ▲ uses these statistical measures of a data set using whole numbers from 0 through 1,000 with less than ten whole number data points to make reasonable inferences and predictions, answer questions, and make decisions (2.4.A1a) (\$): a. minimum and maximum values,	Topic 17: 400F, 414A-415B, 424-425B
b. range,	Topic 17: 414A-415B, 424-425B
c. mode,	Topic 17: 400D, 414A-415B, 424-425B
d. median when the data set has an odd number of data points,	Topic 17: 400D, 400F, 414-415B, 424-425B
e. mean when the data set has a whole number mean.	Topic 17: 400D, 412A-413B, 424-425B
3. recognizes that the same data set can be displayed in various formats including the use of concrete objects (2.4.A1h) (\$).	Topic 17: 400D, 400E, 404B-405B, 410A-411B, 418A-419B, 420A-421, 423, 423A-423B, 424-429
4. recognizes and explains the effects of scale and ‘ interval changes on graphs of whole number data sets (2.4.A1h).	Topic 17: 400D, 400E, 404B-405B, 420A-421, 423, 423A-423B, 424-429