A Correlation of

Scott Foresman·Addison Wesley

enVisionMATH™

to the

Connecticut Mathematics Curriculum Framework
Grades K-6

PEARSON

Introduction

This correlation shows the close alignment *between* **Scott Foresman – Addison Wesley enVisionMATH**, copyright 2009, to the *Connecticut Mathematics Curriculum Framework.* Correlation page references are to the Teacher's Edition. Lessons in the Teacher's Edition include facsimile pages of the 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.

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Kindergarten

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1.1 Understand and describe patterns and functional relationships.

   a. Sort and classify objects using attributes.
   3A-4C, 5A-6C, 7A-8C, 9A-10C, 11A-12C, 293A-294C, 295A-296C

   b. Identify a pattern and describe the rule using thvariety of problems?

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Numerical and Proportional Reasoning – Quantitative relationships can be expressed numerically in multiple ways in order to make connections and simplify calculations using a variety of strategies, tools and technologies.
How are quantitative relationships represented by numbers?

Students should…

2.1 Understand that a variety of numerical representations can be used to describe quantitative relationships.

   a. Use numbers to count, order, compare, label, locate and measure.
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   b. Share equal parts of an object.
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   c. Share a set of objects that is divided into groups with equal amounts.
   137A-138C, 139A-140C

2.2 Use numbers and their properties to compute flexibly and fluently, and to reasonably estimate measures and quantities.

a. Count, adding one more to the previous number and group and count by ones and tens.
51A-52C, 55A-56C, 63A-64C, 65A-66C, 75A-76C, 81A-82C, 87A-88C, 107A-108C, 223A-224C, 225A-226C, 227A-228C, 229A-23C

Geometry and Measurement – Shapes and structures can be analyzed, visualized, measured and transformed using a variety of strategies, tools and technologies.
How do geometric relationships and measurements help us to solve problems and make sense of our world?

Students should…

3.1 Use properties and characteristics of two- and three-dimensional shapes and geometric theorems to describe relationships, communicate ideas and solve problems.

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115A-116C, 117A-118C, 121A-122C, 125A-126C, 127A-128C, 129A-130C, 131A-132C

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3.3 Develop and apply units, systems, formulas and appropriate tools to estimate and measure.

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259A-260C, 261A-262C, 277A-278C, 279A-280C

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159A-160C, 163A-164C, 165A-166C, 167A-168C, 169A-170C, 171A-172C, 281A-282C, 283A-284C

Working with Data: Probability and Statistics – Data can be analyzed to make informed decisions using a variety of strategies, tools and technologies.
How can collecting, organizing and displaying data help us analyze information and make reasonable predictions and informed decisions?

Students should…

4.1 Collect, organize and display data using appropriate statistical and graphical methods.

   a. Visualize information and make comparisons about information displayed in real and picture graphs.
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   33A-34C, 35A-36C, 37A-38C, 231A-232C

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   a. Observe the frequency of real-world events and identify the likelihood of future events.
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Grade One

Algebraic Reasoning: Patterns and Functions – Patterns and functional relationships can be represented and analyzed using a variety of strategies, tools and technologies. **How do patterns and functions help us describe data and physical phenomena and solve a variety of problems?**

Students should…

1.1 Understand and describe patterns and functional relationships.

   a. Examine attributes of objects and describe the relationships.
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1.2 Represent and analyze quantitative relationships in a variety of ways.

   a. Represent the result of counting, combining and separating sets of objects using number sentences.
   63A-66B, 67A-70B, 71A-74B, 163A-166B, 179A-182B, 183A-186B, 187A-190B, 517A-520B, 521A-524B, 525A-528B, 529A-532B, 533A-536B

1.3 Use operations, properties and algebraic symbols to determine equivalence and solve problems.

   a. Identify quantities as equivalent or nonequivalent.
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Numerical and Proportional Reasoning – Quantitative relationships can be expressed numerically in multiple ways in order to make connections and simplify calculations using a variety of strategies, tools and technologies.
How are quantitative relationships represented by numbers?

Students should…

2.1 Understand that a variety of numerical representations can be used to describe quantitative relationships.

   a. Represent and order two-digit numbers as groups of tens and ones in the base ten place value system.
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d. Describe relationships between quantities using ratios.
589A-592B, 593A-596B, 597A-600B, 601A-604B

2.2 Use numbers and their properties to compute flexibly and fluently, and to reasonably estimate measures and quantities.

a. Count by groups, add one more to the grouping and compare values of groups.
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Geometry and Measurement – Shapes and structures can be analyzed, visualized, measured and transformed using a variety of strategies, tools and technologies.
How do geometric relationships and measurements help us to solve problems and make sense of our world?

Students should…

3.1 Use properties and characteristics of two- and three-dimensional shapes and geometric theorems to describe relationships, communicate ideas and solve problems.

a. Classify shapes and solids by common characteristics.
195A-198B, 199A-202B, 227A-230B, 231A-234B, 235A-238B

3.2 Use spatial reasoning, location and geometric relationships to solve problems.

a. Describe, name and interpret direction and position of objects.
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3.3 Develop and apply units, systems, formulas and appropriate tools to estimate and measure.

a. Plan and sequence events.
247A-250B, 255A-258B, 473A-476B

b. Estimate length, area, volume, weight and temperature using nonstandard units.
399A-402B, 403A-406B, 419A-422B, 431A-434B, 443A-446B

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407A-410B, 411A-414B, 423A-426B, 427A-430B, 435A-438B, 439A-442B

Working with Data: Probability and Statistics – Data can be analyzed to make informed decisions using a variety of strategies, tools and technologies.
How can collecting, organizing and displaying data help us analyze information and make reasonable predictions and informed decisions?

Students should…

4.1 Collect, organize and display data using appropriate statistical and graphical methods.

a. Collect, organize, record and describe data.
545A-548B, 549A-552B, 557A-560B, 561A-564B, 565A-568B, 569A-572B

4.2 Analyze data sets to form hypotheses and make predictions.

a. Organize data in tables and graphs and make comparisons of the data.
545A-548B, 549A-552B, 557A-560B, 561A-564B, 565A-568B, 569A-572B

4.3 Understand and apply basic concepts of probability.

a. Determine the likelihood of certain events through simple experiments and observations of games.
573A-576B, 577A-580B

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Grade Two

Algebraic Reasoning: Patterns and Functions – Patterns and functional relationships can be represented and analyzed using a variety of strategies, tools and technologies. **How do patterns and functions help us describe data and physical phenomena and solve a variety of problems?**

Students should…

1.1 Understand and describe patterns and functional relationships.

    a. Describe and extend patterns.
    527A-530B, 543A-546B

    b. Analyze change in terms of quantity and quality using patterns.
    543A-546B, 635A-638B

1.2 Represent and analyze quantitative relationships in a variety of ways.

    a. Represent real-life situations using number sentences.
    7A-10B, 15A-18B, 19A-22B, 27A-30B, 63A-66B, 243A-246B, 595A-598B, 627A-630B

1.3 Use operations, properties and algebraic symbols to determine equivalence and solve problems.

    a. Represent quantities that have the same value with an equal sign.
    115A-118B, 531A-534B

Numerical and Proportional Reasoning – Quantitative relationships can be expressed numerically in multiple ways in order to make connections and simplify calculations using a variety of strategies, tools and technologies.
How are quantitative relationships represented by numbers?

Students should…

2.1 Understand that a variety of numerical representations can be used to describe quantitative relationships.

   a. Represent three-digit numbers as groups of hundreds, tens and ones in the base ten place value system.
   515A-518B, 519A-522B

   b. Represent fractions by sharing portions of equal size as parts of a whole or parts of a set.
   351A-354B, 355A-358B, 359A-362B, 367A-370B

   c. Recognize that the denominator of a fraction tells how many equal parts an object or a set has been divided into, and the numerator indicates how many of the parts are being considered.
   355A-358B, 359A-362B, 367A-370B

   d. Describe relationships between quantities using ratios.
   Related Content: 355A-358B, 359A-362B, 367A-370B

2.2 Use numbers and their properties to compute flexibly and fluently, and to reasonably estimate measures and quantities.

   a. Develop fact families of basic facts using the inverse relationship of addition and subtraction.
   23A-26B, 75A-78B, 79A-82B, 83A-86B, 87A-90B, 274A-274B

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   619A-622B, 631A-634B

   c. Identify and use equivalent representations of numbers to estimate and compute.
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Geometry and Measurement – Shapes and structures can be analyzed, visualized, measured and transformed using a variety of strategies, tools and technologies.
How do geometric relationships and measurements help us to solve problems and make sense of our world?

Students should…

3.1 Use properties and characteristics of two- and three-dimensional shapes and geometric theorems to describe relationships, communicate ideas and solve problems.

    a. Identify shapes as the same when there are changes in position.
331A-334B, 335A-338B

3.2 Use spatial reasoning, location and geometric relationships to solve problems.

    a. Recognize and use geometric relationships to solve problems.
323A-326B, 343A-346B

3.3 Develop and apply units, systems, formulas and appropriate tools to estimate and measure.

    a. Estimate and measure the length of time to complete activities and tasks.
459A-462B, 471A-474B

    b. Measure through direct comparison and through repetition of units.
383A-386B, 387A-390B, 391A-394B, 395A-398B, 415A-418B, 419A-422B, 423A-426B, 427A-430B, 431A-434B, 435A-438B, 439A-442B, 443A-446B

Working with Data: Probability and Statistics – Data can be analyzed to make informed decisions using a variety of strategies, tools and technologies.
How can collecting, organizing and displaying data help us analyze information and make reasonable predictions and informed decisions?

Students should…

4.1 Collect, organize and display data using appropriate statistical and graphical methods.

    a. Construct graphs from data, then make comparisons and draw conclusions.
479A-482B, 483A-486B, 487A-490B, 503A-506B, 583A-586B

4.2 Analyze data sets to form hypotheses and make predictions.

a. Determine patterns and make predictions from data displayed in tables and graphs.
635A-638B

4.3 Understand and apply basic concepts of probability.

a. Analyze data gathered from experiments and identify the likelihood of future events.
495A-498B, 499A-502B

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Grade Three

Algebraic Reasoning: Patterns and Functions – Patterns and functional relationships can be represented and analyzed using a variety of strategies, tools and technologies. **How do patterns and functions help us describe data and physical phenomena and solve a variety of problems?**

Students should…

1.1 Understand and describe patterns and functional relationships.

a. Create and describe patterns using different objects and symbols.
206A-207B, 208A-209B, 210A-211B, 218A-221B

1.2 Represent and analyze quantitative relationships in a variety of ways.

a. Identify mathematical relationships as equations.
32A-33B, 66A-67B, 71, 95, 189, 426A-428, 429A-429B

1.3 Use operations, properties and algebraic symbols to determine equivalence and solve problems.

a. Represent quantities that have the same value with an equal sign.
12A-13B, 35, 43, 222A-223B

Numerical and Proportional Reasoning – Quantitative relationships can be expressed numerically in multiple ways in order to make connections and simplify calculations using a variety of strategies, tools and technologies.
How are quantitative relationships represented by numbers?

Students should…

2.1 Understand that a variety of numerical representations can be used to describe quantitative relationships.

a. Represent numbers in expanded and regrouped forms in the base ten place value system.
4A-5B, 6A-7B, 8A-9B

b. Recognize that a fraction with the same numerator and denominator represents the whole object or an entire set.
278A-279B, 280A-281B

c. Use fractions to measure and to represent points on a ruler or number line.
290A-293B, 332A-333B

2.2 Use numbers and their properties to compute flexibly and fluently, and to reasonably estimate measures and quantities.

a. Use strategies that involve place value patterns and algebraic properties to estimate, add and subtract.
40A-42, 43A-43B, 44A-46, 47A-47B, 48A-49B, 74A-76, 77A-77B, 86A-87B, 90A-92B, 438A-439B

b. Approximate solutions to problems involving computation through the use of efficient methods.
48A-49B, 54A-55B, 78A-79B, 98A-100B, 101A-101B, 414A-415B, 420A-421B

c. Solve multiplication and division problems using rectangular arrays, number patterns, skip counting and repeated addends.
108A-109B, 110A-113B, 126A-127B, 128A-129B, 164A-165B, 170A-171B

d. Compare fractions, identify equivalent fractions, add and subtract fractions with like and unlike denominators using models and pictures.
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Geometry and Measurement – Shapes and structures can be analyzed, visualized, measured and transformed using a variety of strategies, tools and technologies.
How do geometric relationships and measurements help us to solve problems and make sense of our world?

Students should…

3.1 Use properties and characteristics of two- and three-dimensional shapes and geometric theorems to describe relationships, communicate ideas and solve problems.

a. Classify and compare polygons and solids using various attributes.
234A-237B, 238A-241B, 246A-247B, 248A-249B, 250A-251B, 252A-253B

3.2 Use spatial reasoning, location and geometric relationships to solve problems.

a. Represent location on simple maps.
468A-471B

3.3 Develop and apply units, systems, formulas and appropriate tools to estimate and measure.

a. Plan events and make schedules.
Related Content: 400A-402B, 404A-405B

b. Determine and use different tools and units appropriate for specific measurement tasks.
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Working with Data: Probability and Statistics – Data can be analyzed to make informed decisions using a variety of strategies, tools and technologies.
How can collecting, organizing and displaying data help us analyze information and make reasonable predictions and informed decisions?

Students should…

4.1 Collect, organize and display data using appropriate statistical and graphical methods.

a. Design surveys for the collection of data and justify conclusions drawn from the data.
458A-459B, 460A-463B, 482A-483B

4.2 Analyze data sets to form hypotheses and make predictions.

a. Analyze data to identify a typical element or event.
476A-477B, 478A-481B

4.3 Understand and apply basic concepts of probability.

a. Use samples and simulations to determine probability, and to make and test predictions.
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Grade Four

Algebraic Reasoning: Patterns and Functions – Patterns and functional relationships can be represented and analyzed using a variety of strategies, tools and technologies. **How do patterns and functions help us describe data and physical phenomena and solve a variety of problems?**

Students should…

1.1 Understand and describe patterns and functional relationships.

   a. Classify patterns as repeating or growing.
   128A-129B, 130A-131B, 132A-133B, 273, 356A-357B

1.2 Represent and analyze quantitative relationships in a variety of ways.

   a. Demonstrate the equivalence of both sides of an equation.
   81, 113, 116A-118, 119A-119B, 234A-235B, 241, 303, 432A-433B, 434A-435B, 436A-437B

1.3 Use operations, properties and algebraic symbols to determine equivalence and solve problems.

   a. Represent possible values using symbols.
   31, 79, 128A-129B, 130A-131B, 132A-133B, 241, 273, 303, 383

Numerical and Proportional Reasoning – Quantitative relationships can be expressed numerically in multiple ways in order to make connections and simplify calculations using a variety of strategies, tools and technologies.
How are quantitative relationships represented by numbers?

Students should…

2.1 Understand that a variety of numerical representations can be used to describe quantitative relationships.

a. Extend whole number place value patterns, models and notations to include decimals, which are fractions that have denominators that are multiples of ten.
16A-17B, 268A-269B, 276A-278, 279A-279B, 280A-281B, 290A-293B

b. Use models and pictures to reveal patterns about equivalent fractions and ratios.
216A-218, 219A-219B, 224A-226, 227A-227B, 228A-229B, 230A-232, 233A-233B, 236A-237B

c. Use fractions to represent a ratio or a division problem.
220A-221B

d. Make comparisons and describe quantitative relationships using ratios.
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2.2 Use numbers and their properties to compute flexibly and fluently, and to reasonably estimate measures and quantities.

a. Use place value concepts and commutative and associative properties to estimate and compute.
28A-30, 31A-31B, 32A-33B, 40A-41B, 60A-61B, 100A-101B, 144A-145B, 167A-168B, 294A-295B

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54A-57B, 58A-59B, 62A-63B, 64A-65B, 66A-67B, 76A-78, 79A-79B, 80A-81B, 82A-83B, 84A-85B, 96A-97B, 142A-143B, 146A-149B, 164A-165B, 170A-173B

c. Add and subtract fractions and mixed numbers with like and unlike denominators using models, pictures and number sentences.
250A-253B, 254A-255B, 256A-257B, 258A-261B

Grade Four

Geometry and Measurement – Shapes and structures can be analyzed, visualized, measured and transformed using a variety of strategies, tools and technologies.
How do geometric relationships and measurements help us to solve problems and make sense of our world?

Students should…

3.1 Use properties and characteristics of two- and three-dimensional shapes and geometric theorems to describe relationships, communicate ideas and solve problems.

    a. Describe geometric properties of polygons and solids.
    202A-203B, 204A-205B, 206A-207B, 208A-209B, 346A-349B, 350A-351B

3.2 Use spatial reasoning, location and geometric relationships to solve problems.

    a. Find possible pathways between two points using maps that are based on the rectangular coordinate system.
    Related Content: 408A-409B

3.3 Develop and apply units, systems, formulas and appropriate tools to estimate and measure.

    a. Recognize that patterns exist between measurements of length, perimeter and area of squares and rectangles.
    318A-319B, 328A-330, 331A-331B, 332A-333B, 334A-335B

    b. Make precise measurements and use benchmarks to estimate measures.
    364A-365B, 366A-367B, 368A-369B, 374A-375B, 376A-377B, 378A-379B, 390A-391B

Working with Data: Probability and Statistics – Data can be analyzed to make informed decisions using a variety of strategies, tools and technologies.
How can collecting, organizing and displaying data help us analyze information and make reasonable predictions and informed decisions?

Students should…

4.1 Collect, organize and display data using appropriate statistical and graphical methods.

    a. Organize and analyze categorical and numerical data.
    402A-403B, 404A-405B, 406A-407B, 410A-411B, 416A-417B, 418A-419B, 420A-422, 423A-423B

4.2 Analyze data sets to form hypotheses and make predictions.

   a. Describe what is "average" about the characteristics in a data set.
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4.3 Understand and apply basic concepts of probability.

   a. Determine fair situations and good choices based upon the likelihood of an occurrence.
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Grade Five

Algebraic Reasoning: Patterns and Functions – Patterns and functional relationships can be represented and analyzed using a variety of strategies, tools and technologies. **How do patterns and functions help us describe data and physical phenomena and solve a variety of problems?**

Students should…

1.1 Understand and describe patterns and functional relationships.

    a. Identify trends and make predictions based upon patterns and data displayed in different formats.
    14A-16, 17A-17B, 33, 105, 133, 148A-150, 151A-151B, 203, 404A-405B

1.2 Represent and analyze quantitative relationships in a variety of ways.

    a. Recognize that a change in one variable may relate to a change in another variable.
    105, 133, 382A-384, 385A-385B, 420A-421B

1.3 Use operations, properties and algebraic symbols to determine equivalence and solve problems.

    a. Describe the general relationship between two sets of data using an equation or inequality.
    6A-8, 9A-9B, 12A-13B, 34A-36, 37A-37B, 74A-76, 77A-77B, 93, 110A-112, 113A-113B, 259, 288A-289B, 376A-377B, 378A-379B, 380A-381B

Numerical and Proportional Reasoning – Quantitative relationships can be expressed numerically in multiple ways in order to make connections and simplify calculations using a variety of strategies, tools and technologies.
How are quantitative relationships represented by numbers?

Students should…

2.1 Understand that a variety of numerical representations can be used to describe quantitative relationships.

   a. Extend whole number place value patterns, models and notations to include decimals, which are fractions that have denominators that are multiples of ten.
   10A-11B, 12A-13B, 28A-29B, 42A-43B, 44A-45B, 170A-171B, 172A-173B, 178A-179B, 180A-183B

   b. Classify numbers by their factors.
   102A-104, 105A-105B, 106A-108, 109A-109B, 232A-233B

   c. Express numbers as equivalent fractions, decimals or percents.
   228A-229B, 234A-236, 237A-237B, 238A-241B, 242A-243B, 244A-245B, 400A-401B

   d. Represent ratios and proportions and solve problems using models and pictures.
   396A-397B, 398A-399B

2.2 Use numbers and their properties to compute flexibly and fluently, and to reasonably estimate measures and quantities.

   a. Estimate and compute using models and pictures.
   14A-16, 17A-17B, 34A-36, 37A-37B, 46A-48, 49A-49B, 74A-76, 77A-77B, 90A-92, 93A-93B, 110A-112, 113A-113B, 162A-163B, 314A-315B, 386A-388, 389A-389B

Geometry and Measurement – Shapes and structures can be analyzed, visualized, measured and transformed using a variety of strategies, tools and technologies.
How do geometric relationships and measurements help us to solve problems and make sense of our world?

Students should…

3.1 Use properties and characteristics of two- and three-dimensional shapes and geometric theorems to describe relationships, communicate ideas and solve problems.

   a. Use geometric relationships to describe polygons and solids.
   206A-207B, 208A-209B, 210A-211B, 212A-213B, 322A-324, 325A-325B

b. Recognize that changes in the perimeter of a polygon may affect its area, and changes in area may affect the perimeter.
300A-302, 303A-303B, 304A-305B, 306A-307B, 308A-309B, 314A-315B

3.2 Use spatial reasoning, location and geometric relationships to solve problems.

a. Identify, describe and build nets for solid figures and objects.
326A-327B, 328A-329B

b. Determine geometric relationships through spatial visualization.
328A-329B, 330A-331B, 464A-467B, 468A-469B, 470A-471B, 472A-473B, 478A-479B

3.3 Develop and apply units, systems, formulas and appropriate tools to estimate and measure.

a. Solve problems in the measure of time and in converting units of length in the customary and metric systems using specific ratios.
354A-355B, 356A-357B, 358A-361B, 362A-363B

Working with Data: Probability and Statistics – Data can be analyzed to make informed decisions using a variety of strategies, tools and technologies.
How can collecting, organizing and displaying data help us analyze information and make reasonable predictions and informed decisions?

Students should…

4.1 Collect, organize and display data using appropriate statistical and graphical methods.

a. Differentiate between numerical and categorical data and their appropriate representations.
430A-431B, 432A-435B, 436A-439B, 440A-442, 443A-443B, 444A-445B, 446A-449B, 454A-455B

4.2 Analyze data sets to form hypotheses and make predictions.

a. Examine different data collection methods and their effects.
430A-431B, 432A-435B, 436A-439B, 440A-442, 443A-443B, 444A-445B, 446A-449B, 454A-455B

4.3 Understand and apply basic concepts of probability.

a. Relate the likelihood of an event to a numerical value.
488A-491B, 492A-493B

**Scott Foresman – Addison Wesley enVisionMATH
to the
Connecticut Mathematics Curriculum Framework**

Grade Six

Algebraic Reasoning: Patterns and Functions – Patterns and functional relationships can be represented and analyzed using a variety of strategies, tools and technologies. **How do patterns and functions help us describe data and physical phenomena and solve a variety of problems?**

Students should…

1.1 Understand and describe patterns and functional relationships.

a. Identify relationships and make generalizations through the use of patterns.
13, 48A-49B, 131, 153, 214A-215B, 290A-291B, 376A-377B, 378A-379B, 380A-381B, 382A-385B, 461

1.2 Represent and analyze quantitative relationships in a variety of ways.

a. Represent and analyze mathematical relationships with the help of tables, graphs, equations and inequalities.
50A-52, 53A-53B, 102A-104, 105A-105B, 110A-112, 113A-113B, 131, 153, 177, 178A-179B, 376A-377B, 378A-379B, 382A-385B, 386A-388, 389A-389B, 390A-391B

1.3 Use operations, properties and algebraic symbols to determine equivalence and solve problems.

a. Solve real- world problems using algebraic methods.
This objective is addressed in many lessons. Examples: 50A-52, 53A-53B, 84A-86, 87A-87B, 102A-105B, 110A-112, 113A-113B, 154A-155B, 194A-195B, 214A-215B, 250A-252B, 253A-253B

b. Demonstrate how to maintain equivalence in equations.
96A-97B, 98A-100, 101A-101B, 102A-104, 105A-105B, 106-108, 109A-109B, 110A-112, 113A-113B, 212A-213B, 242A-244B, 245A-245B, 372A-374, 375A-375B

Numerical and Proportional Reasoning – Quantitative relationships can be expressed numerically in multiple ways in order to make connections and simplify calculations using a variety of strategies, tools and technologies.
How are quantitative relationships represented by numbers?

Students should…

2.1 Understand that a variety of numerical representations can be used to describe quantitative relationships.

   a. Relate whole numbers, fractions, decimals and integers to number lines, scales, the coordinate plane and problem- solving situations.
   This objective is addressed in many lessons. Examples: 22A-23B, 148A-149B, 154A-155B, 170A-171B, 178A-179B, 202A-203B, 212A-213B, 222A-223B, 224A-225B, 226A-228, 229A-229B, 230A-232, 233A-233B, 234A-236, 237A-237B, 246A-249B, 380A-381B

   b. Express place value patterns using exponents to write powers of ten.
   10A-12, 13A-13B, 18A-20, 21A-21B, 82A-83B

   c. Interpret and connect fraction notation to division.
   144A-145B, 150A-152, 153A-153B

   d. Compare quantities and solve problems using ratios, rates and percents.
   300A-301B, 302A-304, 305A-305B, 306A-307B, 308A-309B, 314A-315B, 324A-325B, 326A-327B, 328A-329B, 352A-353B, 354A-357B, 358A-361B

2.2 Use numbers and their properties to compute flexibly and fluently, and to reasonably estimate measures and quantities.

   a. Solve problems using a variety of computational strategies, including the use of calculators.
   This objective is addressed in many lessons. Examples: 39, 42A-44, 45A-45B, 50A-52, 53A-53B, 84A-86, 87A-87B, 102A-105B, 110A-112, 113A-113B, 194A-195B, 229, 233, 313, 354, 361, 473

   b. Describe when products or quotients with fractions and decimals can yield a larger or smaller result than either factor.
   70A-72, 73A-73B, 74A-75B, 76A-77B, 78A-79B, 186A-187B, 190A-191B, 192A-193B, 204A-205B, 206A-207B, 210A-211B

Geometry and Measurement – Shapes and structures can be analyzed, visualized, measured and transformed using a variety of strategies, tools and technologies.
How do geometric relationships and measurements help us to solve problems and make sense of our world?

Students should…

3.1 Use properties and characteristics of two- and three-dimensional shapes and geometric theorems to describe relationships, communicate ideas and solve problems.

    a. Classify polygons according to their properties.
    274A-276, 277A-277B, 278A-281B

    b. Examine the relationships between the measures of area of 2-dimensional objects and volumes of 3-dimensional objects.
    430A-433B, 434A-437B, 442A-443B, 462A-463B, 464A-465B, 466A-469B

3.2 Use spatial reasoning, location and geometric relationships to solve problems.

    a. Construct similar polygons on coordinate grids
    284A-286, 287A-287B

3.3 Develop and apply units, systems, formulas and appropriate tools to estimate and measure.

    a. Solve problems involving measurement through the use of a variety of tools, techniques and strategies.
    322A-323B, 400A-402, 403A-403B, 404A-406, 407A-407B, 408A-410, 411A-411B, 412A-413B, 414A-417B, 418A-419B

    b. Use specific ratios to convert between measures of length, area, volume, mass and capacity in the customary and metric systems.
    322A-323B

Working with Data: Probability and Statistics – Data can be analyzed to make informed decisions using a variety of strategies, tools and technologies.
How can collecting, organizing and displaying data help us analyze information and make reasonable predictions and informed decisions?

Students should…

4.1 Collect, organize and display data using appropriate statistical and graphical methods.

   a. Display and compare sets of data using various systematic or graphical representations.
   476A-479B, 480A-483B, 484A-487B, 488A-489B, 494A-496, 497A-497B, 498A-499B

4.2 Analyze data sets to form hypotheses and make predictions.

   a. Describe the shape of data sets using the measures of spread and central tendency
   490A-493B, 494A-497B, 498A-499B, 500A-501B

4.3 Understand and apply basic concepts of probability.

   a. Understand that probabilities are more reliable to use as predictors when there is a large number of trials.
   530A-533B

   b. Express probability using various numerical representations.
   582A-529B, 530A-533B, 534A-535B