

A Correlation of

Scott Foresman • Addison Wesley

en**Vision**MATH™

and

Scott Foresman – Addison Wesley Mathematics,
Grade Pre–K

to the

Pennsylvania

Academic Standards for Mathematics
Grades PreK-2

Assessment Anchors and Eligible content
Grades 3-6

PEARSON

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Introduction

This correlation shows the close alignment between **Scott Foresman – Addison Wesley enVisionMATH**, K–6, and **Scott Foresman – Addison Wesley Mathematics, PreK**, to the *Pennsylvania Academic Standards for Mathematics (PreK-2) and the Assessment Anchors and Eligible Content (Grades 3-6)*. Correlation page references are to the Teacher’s Edition. Lessons in the Teacher’s Edition include facsimile pages of the Student Edition and related ancillaries.

The **enVisionMATH™** program is based around scientific research on how children learn mathematics as well as on classroom–based evidence that validates proven reliability.

Personalized Curriculum

enVisionMATH™ provides 20 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 teacher to rearrange into a personalized curriculum that matches the sequence preferred by your class, school, or district. The curriculum is designed so that all standards can be taught before the major test.

Instructional Design

enVisionMATH™ teaches for understanding using research–based best practices. Essential understandings are connected by Big Ideas 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. 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. **enVisionMATH™** created a Visual Learning Bridge which is a step–by–step bridge between the interactive learning activity and the lesson exercised to help students focus on one idea at a time and see the connections within the sequence of ideas. Guiding questions in blue type help you guide your students through the examples and allow for checking of understanding.

Differentiated Instruction

enVisionMATH™ 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. All can be used over and over due to the inclusion of a “Try Again” at the end, can be used for ongoing review and used year after year. For each topic, 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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**Scott Foresman – Addison Wesley Mathematics – PreK
to the
Pennsylvania Academic Standards for Mathematics for Grade 3**

PreK

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley Mathematics
2.1. Numbers, Number Systems and Number Relationships	
<i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</i>	
A. Count using whole numbers (to 10,000) and by 2's, 3's, 5's, 10's, 25's and 100's.	2–3, 4–5, 10–11, 12–13, 18–21, 22–25, 26–29, 30–33, 34–37
B. Use whole numbers and fractions to represent quantities.	2–3, 4–5, 10–11, 12–13, 18–21, 22–25, 26–29, 30–33, 34–37
C. Represent equivalent forms of the same number through the use of concrete objects, drawings, word names and symbols.	2–3, 4–5, 10–11, 12–13, 18–21, 22–25, 26–29, 30–33, 34–37, 120–123
D. Use drawings, diagrams or models to show the concept of fraction as part of a whole.	Related content: 54
E. Count, compare and make change using a collection of coins and one dollar bills.	42
F. Apply number patterns (even and odd) and compare values of numbers on the hundred board.	See Kindergarten.
G. Use concrete objects to count, order and group.	2–3, 4–5, 10–11, 12–13, 18–21, 22–25, 26–29, 30–33, 34–37
H. Demonstrate an understanding of one-to-one correspondence.	18–21, 22–25, 34–37
I. Apply place-value concepts and numeration to counting, ordering and grouping.	Related content: 2–3, 4–5, 10–11, 12–13, 18–21, 22–25, 26–29, 30–33, 34–37

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley Mathematics
J. Estimate, approximate, round or use exact numbers as appropriate.	See Grade 1.
K. Describe the inverse relationship between addition and subtraction.	See Grade 1.
L. Demonstrate knowledge of basic facts in four basic operations.	Related content: 46–49, 50–53, 54–57, 120–123, 124–127, 128–131
2.2. Computation and Estimation	
<i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</i>	
A. Apply addition and subtraction in everyday situations using concrete objects.	40–41, 42–43, 46–49, 50–53, 124–127, 128–131
B. Solve single- and double-digit addition and subtraction problems with regrouping in vertical form.	See Grade 2.
C. Demonstrate the concept of multiplication as repeated addition and arrays.	See Grade 2.
D. Demonstrate the concept of division as repeated subtraction and as sharing.	Related content: 54–57
E. Use estimation skills to arrive at conclusions.	See Grade 1.
F. Determine the reasonableness of calculated answers.	See Grade 1.
G. Explain addition and subtraction algorithms with regrouping.	Related content: 46–49, 50–53, 120–123, 124–127, 128–131

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley Mathematics
2.3. Measurement and Estimation <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills to:</i>	
A. Compare measurable characteristics of different objects on the same dimensions (e.g., time, temperature, area, length, weight, capacity, perimeter).	140–143, 144–147, 148–151, 152–155
B. Determine the measurement of objects with non-standard and standard units (e.g., US customary and metric).	152–155
C. Determine and compare elapsed times.	See Grade 2.
D. Tell time (analog and digital) to the minute.	See Kindergarten.
E. Determine the appropriate unit of measure.	Related content: 152–155
F. Use concrete objects to determine area and perimeter.	See Grade 1.
G. Estimate and verify measurements.	Related content: 140–143, 144–147, 148–151, 152–155
H. Demonstrate that a single object has different attributes that can be measured in different ways (e.g., length, mass, weight, time, area, temperature, capacity, perimeter).	See Kindergarten.
2.4. Mathematical Reasoning and Connections <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills to:</i>	
A. Make, check and verify predictions about the quantity, size and shape of objects and groups of objects.	Related content: 128–131, 172–175

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley Mathematics
B. Use measurements in everyday situations (e.g., determine the geography of the school building).	140–143, 144–147, 148–151, 152–155
2.5. Mathematical Problem Solving and Communication <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills to:</i>	
A. Use appropriate problem-solving strategies (e.g., guess and check, working backwards).	10–11, 12–13, 14–17, 18–21, 22–25, 26–29, 30–33, 34–37, 46–49, 50–53, 54–57, 68–71, 72–73, 74–77, 78–81, 82–85, 86–89, 98–101, 102–105, 106–109, 110–111, 120–123, 124–127, 128–131, 140–143, 144–147, 148–151, 152–155, 156–159, 168–171, 172–175, 176–179
B. Determine when sufficient information is present to solve a problem and explain how to solve a problem.	10–11, 12–13, 14–17, 18–21, 22–25, 26–29, 30–33, 34–37, 46–49, 50–53, 54–57, 68–71, 72–73, 74–77, 78–81, 82–85, 86–89, 98–101, 102–105, 106–109, 110–111, 120–123, 124–127, 128–131, 140–143, 144–147, 148–151, 152–155, 156–159, 168–171, 172–175, 176–179
C. Select and use an appropriate method, materials and strategy to solve problems, including mental mathematics, paper and pencil and concrete objects.	10–11, 12–13, 14–17, 18–21, 22–25, 26–29, 30–33, 34–37, 46–49, 50–53, 54–57, 68–71, 72–73, 74–77, 78–81, 82–85, 86–89, 98–101, 102–105, 106–109, 110–111, 120–123, 124–127, 128–131, 140–143, 144–147, 148–151, 152–155, 156–159, 168–171, 172–175, 176–179
2.6. Statistics and Data Analysis <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills to:</i>	
A. Gather, organize and display data using pictures, tallies, charts, bar graphs and pictographs.	156–159
B. Formulate and answer questions based on data shown on graphs.	156–159

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley Mathematics
C. Predict the likely number of times a condition will occur based on analyzed data.	See Kindergarten.
D. Form and justify an opinion on whether a given statement is reasonable based on a comparison to data.	156–159
2.7. Probability and Predictions <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</i>	
A. Predict and measure the likelihood of events and recognize that the results of an experiment may not match predicted outcomes.	See Kindergarten.
B. Design a fair and an unfair spinner.	See Kindergarten.
C. List or graph the possible results of an experiment.	Related content: 156–159
D. Analyze data using the concepts of largest, smallest, most often, least often and middle.	Related content: 156–159
2.8. Algebra and Functions <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills to:</i>	
A. Recognize, describe, extend, create and replicate a variety of patterns including attribute, activity, number and geometric patterns.	92–93, 94–95, 98–101, 102–105, 106–109, 110–111
B. Use concrete objects and trial and error to solve number sentences and check if solutions are sensible and accurate.	Related content: 42–43, 46–49, 50–53, 120–123, 124–127, 128–131
C. Substitute a missing addend in a number sentence.	Related content: 42–43, 46–49, 50–53, 120–123, 124–127, 128–131

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley Mathematics
D. Create a story to match a given combination of symbols and numbers.	Related content: 42–43, 46–49, 50–53, 120–123, 124–127, 128–131
E. Use concrete objects and symbols to model the concepts of variables, expressions, equations and inequalities.	Related content: 42–43, 46–49, 50–53, 124–127, 128–131
F. Explain the meaning of solutions and symbols.	Related content: 46–49, 50–53, 124–127
G. Use a table or a chart to display information.	5, 63, 117, 137
H. Describe and interpret the data shown in tables and charts.	Related content: 5, 63, 117, 137
I. Demonstrate simple function rules.	See Grade 2.
J. Analyze simple functions and relationships and locate points on a simple grid.	74–77
2.9. Geometry <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills to:</i>	
A. Name and label geometric shapes in two and three dimensions (e.g., circle/sphere, square/cube, triangle/pyramid, rectangle/prism).	60–61, 62–63, 68–71, 72–73, 82–85
B. Build geometric shapes using concrete objects (e.g., manipulatives).	62, 68–71, 82–85
C. Draw two- and three-dimensional geometric shapes and construct rectangles, squares and triangles on the geoboard and on graph paper satisfying specific criteria.	63, 82–85
D. Find and describe geometric figures in real life.	60–61, 62

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley Mathematics
E. Identify and draw lines of symmetry in geometric figures.	See Kindergarten.
F. Identify symmetry in nature.	See Kindergarten.
G. Fold paper to demonstrate the reflections about a line.	Related content: 82–85
H. Show relationships between and among figures using reflections.	Related content: 82–85
I. Predict how shapes can be changed by combining or dividing them.	78–81
2.10. Trigonometry <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills to:</i>	
A. Identify right angles in the environment.	See Grade 2.
B. Model right angles and right triangles using concrete objects.	See Grade 2.
2.11. Concepts of Calculus <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills to:</i>	
A. Identify whole number quantities and measurements from least to most and greatest value.	Related content: 26–29, 128–131, 140–143, 144–147, 148–151, 177–178
B. Identify least and greatest values represented in bar graphs and pictographs.	156–159
C. Categorize rates of change as faster and slower.	See Grade 3.
D. Continue a pattern of numbers or objects that could be extended infinitely.	Related content: 92–93, 94–95, 98–101, 102–105, 106–109, 110–111

**Scott Foresman – Addison Wesley enVisionMATH – K-2
to the
Pennsylvania Academic Standards for Mathematics for Grade 3**

Kindergarten – Grade Two

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley enVisionMATH
<p>2.1. Numbers, Number Systems and Number Relationships</p> <p><i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</i></p>	
<p>A. Count using whole numbers (to 10,000) and by 2's, 3's, 5's, 10's, 25's and 100's.</p>	<p>K: These are some of the many examples. 51A–52C, 55A–56C, 75A–76C, 81A–82C, 87A–88C, 213A–214C, 215A–216C, 217A–218C, 219A–220C, 229A–230C, 223A–224C, 227A–228C</p> <p>1: 3–6, 6B, 7–10, 10B, 11–14, 14B, 26, 271–274, 274B, 275–278, 278B, 279–282, 282B</p> <p>2: 99–102, 102B, 103–106, 106B, 127–129, 130B, 144–145, 146B, 515–518, 518B, 590</p>
<p>B. Use whole numbers and fractions to represent quantities.</p>	<p>K: These are some of the many examples. 53A–54B, 57A–58C, 59A–60C, 69A–70C, 79A–80C, 85A–86C, 91A–92C, 101A–102C, 103A–104C, 109A–110C, 213A–214C, 215A–216C</p> <p>1: These are some of the many examples. 3–6, 6B, 7–10, 10B, 11–14, 14B, 15–18, 18B, 19–22, 22B, 119–122, 122B, 123–126, 126B, 593–596, 596B, 597–600, 600B</p> <p>2: These are some of the many examples. 99–102, 102B, 103–106, 106B, 107–110, 110B, 111–114, 114B, 367–370, 370B, 511–514, 514B, 515–518, 518B</p>

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<p>C. Represent equivalent forms of the same number through the use of concrete objects, drawings, word names and symbols.</p>	<p>K: These are some of the many examples. 53A–54C, 57A–58C, 61A–62C, 69A–70C, 77A–78C, 79A–80C, 83A–84C, 85A–86C, 89A–90C, 91A–92C, 213A–214C, 215A–216C, 217A–218C, 219A–220C</p> <p>1: 51–54, 55–58, 59–62, 127–130, 130B, 131–134, 134B, 135–138, 138B, 315–318, 318B, 319–322, 322B, 323–326, 326B</p> <p>2: 99–102, 102B, 103–106, 106B, 107–110, 110B, 111–114, 114B, 511–514, 514B, 515–518, 518B, 519–522, 522B</p>
<p>D. Use drawings, diagrams or models to show the concept of fraction as part of a whole.</p>	<p>K: 138A–139C, 140A–141C, 142A–143C</p> <p>1: 589–592, 592B</p> <p>2: 355–358, 358B, 359–362, 362B</p>
<p>E. Count, compare and make change using a collection of coins and one dollar bills.</p>	<p>K: 237A–238C, 239A–240C, 241A–242C, 243A–244C, 245A–246C, 247A–248C</p> <p>1: 367–370, 370B, 371–374, 374B, 379–382, 382B, 383–386, 386B</p> <p>2: 143–146, 146B, 147–150, 150B, 151–154, 154B, 155–158, 158B, 159–162, 162B</p>
<p>F. Apply number patterns (even and odd) and compare values of numbers on the hundred board.</p>	<p>K: 221A–222C, 225A–226C</p> <p>1: 275–278, 278B, 613–616, 616B, 625–628, 628B</p> <p>2: 127–130, 130B</p>
<p>G. Use concrete objects to count, order and group.</p>	<p>K: These are some of the many examples. 51A–52B, 53A–54B, 55A–56C, 57A–58C, 59A–60C, 144A–145C, 146A–147C, 213A–214B, 215A–216C, 217A–218C, 219A–220C</p> <p>1: 3–6, 6B, 7–10, 10B, 11–14, 14B, 26, 39042, 42B, 271–274, 274B, 275–278, 278B, 279–282, 282B, 343–346, 346B</p> <p>2: 99–102, 102B, 103–106, 106B, 111–114, 114B, 127–130, 130B, 131–134, 134B, 511–514, 514B, 515–518, 518B</p>

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley enVisionMATH
<p>H. Demonstrate an understanding of one-to-one correspondence.</p>	<p>K: These are some of the many examples. 51A–52C, 55A–56C, 59A–60C, 63–64C, 65–66C, 67–68C, 101–102C, 103A–104C, 105A–106C, 213A–214C, 215A–216C, 217A–218C, 219A–220C, 289A–290C</p> <p>1: Related content: 31–34, 34B</p>
<p>I. Apply place-value concepts and numeration to counting, ordering and grouping.</p>	<p>K: These are some of the many examples. 51A–52B, 53A–54B, 55A–56C, 57A–58C, 59A–60C, 144A–145C, 146A–147C, 213A–214B, 215A–216C, 217A–218C, 219A–220C</p> <p>1: 3–6, 6B, 7–10, 10B, 11–14, 14B, 26, 35–38, 38B, 39–42, 42B, 271–274, 274B, 275–278, 278B, 279–282, 282B, 343–346, 346B, 355–358, 358B</p> <p>2: These are some of the many examples. 99–102, 102B, 103–106, 106B, 107–110, 110B, 111–114, 114B, 115–118, 118B, 123–126, 126B, 511–514, 514B, 515–518, 518B, 519–522, 522B</p>
<p>J. Estimate, approximate, round or use exact numbers as appropriate.</p>	<p>1: 347–350, 350B</p> <p>2: 287–290, 290B</p>
<p>K. Describe the inverse relationship between addition and subtraction.</p>	<p>1: 107–110, 110B, 175–178, 178B, 525–528B</p> <p>2: 23–26, 26B, 271–274, 274B, 577</p>
<p>L. Demonstrate knowledge of basic facts in four basic operations.</p>	<p>K: 177A–178C, 179A–180C, 181A–182C, 193A–184C, 185A–186C, 187A–188C, 189A–190C, 195A–196C, 197A–198C, 199A–200C, 201A–202C, 203A–204C, 205A–205C, 207A–208C (addition and subtraction only)</p> <p>1: These are some of the many examples. 51–54, 54B, 55–58, 58B, 59–62, 62B, 63–66, 66B, 67–70, 70B, 71–74, 74B, 75–77, 78B, 83–86, 86B, 87–90, 90B, 91–94, 94B, 95–98, 98B</p>

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley enVisionMATH
(continued)	<p>2: These are some of the many examples. 3–6, 6B, 7–10, 10B, 11–14, 14B, 15–18, 18B, 19–22, 22B, 23–26, 26B, 35–38, 38B, 39–42, 42B, 47–51, 51B, 71–74, 74B, 79–82, 82B, 603–606, 606B, 607–610, 610B, 631–634, 634B</p>
<p>2.2. Computation and Estimation</p> <p><i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</i></p>	
<p>A. Apply addition and subtraction in everyday situations using concrete objects.</p>	<p>K: 177A–178C, 179A–180C, 181A–182C, 193A–184C, 185A–186C, 187A–188C, 189A–190C, 195A–196C, 197A–198C, 199A–200C, 201A–202C, 203A–204C, 205A–205C, 207A–208C</p> <p>1: These are some of the many examples. 51–54, 62, 62B, 66, 66B, 68–70, 70B, 76–77, 78B, 86, 86B, 90, 90B, 94, 94B, 98, 98B, 99–102, 102B, 103–106, 106B, 107–110, 110B</p> <p>2: 7–10, 10B, 14, 15–18, 18B, 19–22, 22B, 26, 27–30, 30B, 42B</p>
<p>B. Solve single- and double-digit addition and subtraction problems with regrouping in vertical form.</p>	<p>1: 621–624, 624B, 633–636, 636B (horizontal only)</p> <p>2: 223–225, 225B, 255–258, 258B, 259–262, 262B</p>
<p>C. Demonstrate the concept of multiplication as repeated addition and arrays.</p>	<p>2: 591–594, 594B</p>
<p>D. Demonstrate the concept of division as repeated subtraction and as sharing.</p>	<p>2: 623–626, 626B</p>
<p>E. Use estimation skills to arrive at conclusions.</p>	<p>1: Related content: 347–350, 350B, 399–402, 402B, 403–406, 406B, 465–468, 468B</p> <p>2: 287–290, 290B, 299–302, 302B, 555–558, 558B, 571–574, 574B</p>

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley enVisionMATH
F. Determine the reasonableness of calculated answers.	1: 487, 531, 623, 631 2: 285, 297, 561
G. Explain addition and subtraction algorithms with regrouping.	1: Related content: 621–624, 624B, 633–636, 636B 2: 223–225, 225B, 255–258, 258B, 259–262, 262B, 575–578, 578B, 579, 582, 582B
<p>2.3. Measurement and Estimation</p> <p><i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills to:</i></p>	
A. Compare measurable characteristics of different objects on the same dimensions (e.g., time, temperature, area, length, weight, capacity, perimeter).	K: 153A–154C, 155A–156C, 161A–162C, 163A–164C, 167A–168C 1: 395–398, 398B, 419–422, 422B, 431–434, 434B, 443–446, 446B 2: 415–418, 418B, 432–434, 434B, 467–470, 470B
B. Determine the measurement of objects with non-standard and standard units (e.g., US customary and metric).	K: 159A–160C, 165A–166C, 169A–170C, 171A–172C 1: 399–402, 402B, 403–406, 406B, 407–410B, 411–414, 414B 2: These are some of the many examples. 383–386, 386B, 387–390, 390B, 391–394, 394B, 395–398, 398B, 399–402, 402B, 403–406, 406B, 407–410, 410B, 419–422, 422B, 423–426, 427–430, 431–434, 435–438, 439–442, 443–446
C. Determine and compare elapsed times.	This standard can be introduced during this lesson. 459–462

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley enVisionMATH
D. Tell time (analog and digital) to the minute.	K: Related content: 261–262A, 262C (to the hour) 1: Related content: 461–464, 464B (to the half hour) 2: Related content: 451–454, 454B, 474 (to five minutes)
E. Determine the appropriate unit of measure.	K: Related content: 159A–160C, 165A–166C, 169A–170C, 171A–172C 1: 423–426, 426B, 439–442, 442B 2: 396, 398B, 437–438, 438B, 441–442, 442B
F. Use concrete objects to determine area and perimeter.	1: 415–418, 418B 2: 402B, 403, 406B
G. Estimate and verify measurements.	K: 171A–172C 1: 399–402, 402B, 403–406, 406B, 407–410, 410B, 411–414, 414B 2: 416, 419–421, 422B
H. Demonstrate that a single object has different attributes that can be measured in different ways (e.g., length, mass, weight, time, area, temperature, capacity, perimeter).	2: 379–382, 382B
2.4. Mathematical Reasoning and Connections <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills to:</i>	
A. Make, check and verify predictions about the quantity, size and shape of objects and groups of objects.	K: Related content: 43A–44C 1: Related content: 247–250, 250B 2: 496

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley enVisionMATH
<p>B. Use measurements in everyday situations (e.g., determine the geography of the school building).</p>	<p>K: 153A–154C, 155A–156C, 157A–158C, 159A–160C, 161A–162C, 163A–164C, 167A–168C</p> <p>1: 395–398, 398B, 402, 406, 406B, 418, 418B, 422, 422B, 426, 426B, 430, 438B, 446, 446B</p> <p>2: 382, 398, 406, 410, 418, 422, 426, 430, 438, 442, 446, 470</p>
<p>2.5. Mathematical Problem Solving and Communication</p> <p><i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills to:</i></p>	
<p>A. Use appropriate problem-solving strategies (e.g., guess and check, working backwards).</p>	<p>K: 11A–12C, 27A–28C, 41A–42C, 69A–70C, 95A–96C, 109A–110C, 131A–132C, 141A–142C, 147A–148C, 161A–162A, 171A–172C, 189A–190C, 207A–208C, 231A–232C, 247A–248C, 265A–266C, 283A–284C, 301A–302C</p> <p>1: These are some of the many examples. 43–46, 46B, 75–77, 78B, 111–114, 114B, 135–137, 138B, 163–166, 166B, 223–225, 226B, 295–298, 298B, 323–326, 326B, 387–389, 390B, 473–476, 476B, 509–511, 512B, 533–536, 536B, 637–639, 640B</p> <p>2: These are some of the many examples. 27–29, 29B, 63–66, 66B, 135–138, 138B, 163–165, 165B, 187–190, 190B, 243–245, 245B, 307–310, 310B, 343–345, 345B, 371–374, 374B, 635–638, 638B</p>

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley enVisionMATH
<p>B. Determine when sufficient information is present to solve a problem and explain how to solve a problem.</p>	<p>K: 11A–12C, 27A–28C, 41A–42C, 69A–70C, 95A–96C, 109A–110C, 131A–132C, 141A–142C, 147A–148C, 161A–162A, 171A–172C, 189A–190C, 207A–208C, 231A–232C, 247A–248C, 265A–266C, 283A–284C, 301A–302C</p> <p>1: These are some of the many examples. 43–46, 46B, 75–77, 78B, 111–114, 114B, 135–137, 138B, 163–166, 166B, 223–225, 226B, 295–298, 298B, 323–326, 326B, 387–389, 390B, 473–476, 476B, 509–511, 512B, 533–536, 536B, 637–639, 640B</p> <p>2: These are some of the many examples. 27–29, 29B, 63–66, 66B, 135–138, 138B, 163–165, 165B, 187–190, 190B, 243–245, 245B, 307–310, 310B, 343–345, 345B, 371–374, 374B, 635–638, 638B</p>
<p>C. Select and use an appropriate method, materials and strategy to solve problems, including mental mathematics, paper and pencil and concrete objects.</p>	<p>K: 11A–12C, 27A–28C, 41A–42C, 69A–70C, 95A–96C, 109A–110C, 131A–132C, 141A–142C, 147A–148C, 161A–162A, 171A–172C, 189A–190C, 207A–208C, 231A–232C, 247A–248C, 265A–266C, 283A–284C, 301A–302C</p> <p>1: These are some of the many examples. 6, 10, 14, 22, 34, 38, 42, 46, 54, 58, 62, 66, 70, 74, 86, 90, 94, 98, 102, 106, 110, 114, 122, 126, 130, 134, 146, 150</p> <p>2: These are some of the many examples. 6, 10, 14, 18, 22, 26, 38, 42, 46, 54, 58, 62, 66, 74, 78, 82, 86, 90, 94, 102, 106, 110, 114, 118, 122, 126, 130, 134, 136, 150</p>

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley enVisionMATH
2.6. Statistics and Data Analysis <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills to:</i>	
A. Gather, organize and display data using pictures, tallies, charts, bar graphs and pictographs.	K: 291A–292C, 293A–294C, 295A–296C, 297A–298C, 301A–302C 1: 557–560, 560B, 561–564, 564B, 565–568, 568B, 569–572, 572B 2: 163–165, 165B, 479–482, 482B, 483–486, 486B, 487–490, 490B, 503–506, 506B, 583–586, 586B
B. Formulate and answer questions based on data shown on graphs.	K: 291A–292C, 293A–294C, 295A–296C, 297A–298C, 301A–302C 1: 541–544, 544B, 545–548, 548B, 549–552, 552B, 557–560, 560B, 561–564, 564B, 565–568, 568B, 569–572, 572B 2: 479–482, 482B, 483–486, 486B, 487–490, 490B, 503–506, 506B, 583–586, 586B
C. Predict the likely number of times a condition will occur based on analyzed data.	K: Related data: 299A–300C 1: Related data: 573–576, 576B, 577–580B, 580B 2: 495–498, 498B
D. Form and justify an opinion on whether a given statement is reasonable based on a comparison to data.	K: Related data: 299A–300C 1: Related data: 573–576, 576B, 577–580B, 580B 2: 483–486, 486B, 487–490, 490B
2.7. Probability and Predictions <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:</i>	
A. Predict and measure the likelihood of events and recognize that the results of an experiment may not match predicted outcomes.	K: 299–300C 1: Related data: 573–576, 576B, 577–580B, 580B 2: 495–498, 498B

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley enVisionMATH
B. Design a fair and an unfair spinner.	K: Related data: 299A–300C 1: Related data: 577–580B, 580B 2: 498B
C. List or graph the possible results of an experiment.	K: Related data: 299A–300C 1: Related Data: 573–576, 576B, 577–580B, 580B 2: 495–498, 498B
D. Analyze data using the concepts of largest, smallest, most often, least often and middle.	K: Related content: 291A–292C, 293A–294C, 295A–296C, 297A–298C, 301A–302C 1: Related content: 541–544, 544B, 545–548, 548B, 549–552, 552B, 557–560, 560B, 565–568, 568B, 569–572, 572B 2: Related content: 479–482, 482B, 483–586, 486B, 487–490, 490B
2.8. Algebra and Functions <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills to:</i>	
A. Recognize, describe, extend, create and replicate a variety of patterns including attribute, activity, number and geometric patterns.	K: 33A–34C, 35A–36C, 37A–38C, 39A–40C, 41A–42C, 43A–44C, 45A–46C, 225A–226C, 227A–228C, 229A–230C, 231A–232B 1: 15–18, 18B, 19–22, 22B, 205, 213, 229, 233, 243–246, 246B, 247–250, 250B, 251–254, 254B, 255–257, 258, 258B, 275–278, 278B, 279–282, 282B, 291–294, 294B, 309, 345, 459, 463 2: 127–130, 130B, 187–190, 190B, 357, 512, 543–546, 546B, 590

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley enVisionMATH
<p>B. Use concrete objects and trial and error to solve number sentences and check if solutions are sensible and accurate.</p>	<p>K: Related content: 177A–178C, 179A–180C, 181A–182C, 193A–184C, 185A–186C, 187A–188C, 189A–190C, 195A–196C, 197A–198C, 199A–200C, 201A–202C, 203A–204C, 205A–205C, 207A–208C</p> <p>1: These are some of the many examples. 63–66, 66B, 67–70, 70B, 83–86, 86B, 87–90, 90B, 95–98, 98B, 107–110, 110B, 147–148, 150B, 525–526, 528B, 609–612, 612B, 629–632, 632B</p> <p>2: These are some of the many examples. 3–6, 6B, 7–10, 10B, 11–14, 14B, 15–18, 18B, 23–26, 26B, 27–29, 29B, 243–245, 245B, 591–594, 594B, 595–598, 598B</p>
<p>C. Substitute a missing addend in a number sentence.</p>	<p>K: Related content: 177A–178C, 179A–180C, 181A–182C, 193A–184C, 185A–186C, 187A–188C, 189A–190C</p> <p>1: 65, 85–86, 88, 93, 94B, 131–134, 149, 157, 161, 177, 184–185, 269, 321, 491, 523, 615</p> <p>2: 5, 37, 45, 49, 53, 87–90, 90B, 177, 201, 553, 567–570, 570B, 577</p>
<p>D. Create a story to match a given combination of symbols and numbers.</p>	<p>K: Related content: 177A–178C, 179A–180C, 181A–182C, 193A–184C, 185A–186C, 187A–188C, 189A–190C, 195A–196C, 197A–198C, 199A–200C, 201A–202C, 203A–204C, 205A–205C, 207A–208C</p> <p>1: 70, 102, 114</p> <p>2: 273, 599–602, 602B</p>

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley enVisionMATH
<p>E. Use concrete objects and symbols to model the concepts of variables, expressions, equations and inequalities.</p>	<p>K: These are some of the many examples. 177A–178C, 179A–180C, 181A–182C, 193A–184C, 185A–186C, 187A–188C, 189A–190C, 195A–196C, 197A–198C, 199A–200C, 201A–202C, 203A–204C, 205A–205C, 207A–208C</p> <p>1: These are some of the many examples. 63–66, 66B, 67–70, 70B, 71–72, 83–86, 86B, 87–90, 90B, 91–94, 94B, 95–98, 98B, 107–110, 110B, 111–114, 114B, 147–148, 150B, 525–526, 528B</p> <p>2: These are some of the many examples. 3–6, 6B, 7–10, 10B, 11–14, 14B, 15–18, 18B, 23–26, 26B, 27–29, 29B, 591–594, 594B, 595–598, 598B, 611–614, 614B</p>
<p>F. Explain the meaning of solutions and symbols.</p>	<p>K: 183–184C, 201A–202C</p> <p>1: 63–66, 66B, 95–98, 98B, 339–342, 342B</p> <p>2: 115–118, 118B</p>
<p>G. Use a table or a chart to display information.</p>	<p>K: Related content: 69A–70C</p> <p>1: 473–476, 476B, 509–512, 512B, 557–560, 560B, 561–564, 564B, 565–568, 568B, 569–572, 572B</p> <p>2: 135, 138B, 163–165, 166B, 479–482, 482B, 483–486, 486B, 487–490, 490B, 635–638, 638B</p>
<p>H. Describe and interpret the data shown in tables and charts.</p>	<p>K: Related content: 69A–70C</p> <p>1: 473–476, 476B, 509–512, 512B, 557–560, 560B, 561–564, 564B, 565–568, 568B, 569–572, 572B</p> <p>2: 135–137, 138B, 163–165, 166B, 479–482, 482B, 483–486, 486B, 487–490, 490B, 635–638, 638B</p>
<p>I. Demonstrate simple function rules.</p>	<p>2: 635–638, 638B</p>

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley enVisionMATH
J. Analyze simple functions and relationships and locate points on a simple grid.	1: 553–556, 556B 2: 491–494, 494B, 635–638, 638B
2.9. Geometry <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills to:</i>	
A. Name and label geometric shapes in two and three dimensions (e.g., circle/sphere, square/cube, triangle/pyramid, rectangle/prism).	K: 115A–116C, 117A–118C, 125A–126C 1: 195–198, 198B, 202, 202B, 209–210, 227–230, 230B, 233–234, 234B, 235–238 2: 315–318, 318B, 319–322, 322B, 323–326, 326B, 327–330, 330B
B. Build geometric shapes using concrete objects (e.g., manipulatives).	K: 119A–120C 1: 203–206, 206B 2: 323–326, 326B
C. Draw two- and three-dimensional geometric shapes and construct rectangles, squares and triangles on the geoboard and on graph paper satisfying specific criteria.	K: 121A–122C 1: Related content: 195, 197–198, 199, 201, 202B, 227, 230, 230B 2: 331–334, 334B, 341, 342B
D. Find and describe geometric figures in real life.	K: 17A–18C, 19A–20C, 21A–22C, 23A–24C, 25A–26C, 27A–27C, 115A–116C, 117A–118C, 125A–126C, 127A–128C, 129A–130C, 131A–132C 1: Related content: 198, 198B, 227–230, 230B, 233, 238 2: 315–318, 318B

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley enVisionMATH
E. Identify and draw lines of symmetry in geometric figures.	K: 123A–124C 1: 219–222, 222B 2: 339–342, 342B
F. Identify symmetry in nature.	K: 123A–124C 1: Related content: 219–222, 222B 2: 342, 342B
G. Fold paper to demonstrate the reflections about a line.	1: Related content: 211–214, 214B 2: Related content: 335–338, 338B
H. Show relationships between and among figures using reflections.	K: Related content: 121A–122C 1: 211–214, 214B 2: 335–338, 338B
I. Predict how shapes can be changed by combining or dividing them.	K: 119A–120C 1: 203–206, 206B, 207–210, 210B 2: 323–326, 326B, 327–330, 330B, 346
2.10. Trigonometry <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills to:</i>	
A. Identify right angles in the environment.	2: This standard can be introduced during this lesson. 327–330
B. Model right angles and right triangles using concrete objects.	2: This standard can be introduced during this lesson. 327–330
2.11. Concepts of Calculus <i>Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills to:</i>	
A. Identify whole number quantities and measurements from least to most and greatest value.	K: Related content: 153A–154B, 163A–164C 1: 35–38, 39B, 39–42, 42B, 355–358, 358B, 419–422, 422B 2: 123–126B, 539–542, 542B

Pennsylvania Academic Standards	Scott Foresman – Addison Wesley enVisionMATH
<p>B. Identify least and greatest values represented in bar graphs and pictographs.</p>	<p>K: 295A–296C, 297A–298C, 301A–302C 1: 545–548, 548B, 549–552, 552B, 565–568, 568B, 569, 571 2: 479–482, 482B, 483–486, 486B, 487–490, 490B, 503–506, 506B, 583–586, 586B</p>
<p>C. Categorize rates of change as faster and slower.</p>	<p>See Grade 3 (line graphs).</p>
<p>D. Continue a pattern of numbers or objects that could be extended infinitely.</p>	<p>K: 225A–226C, 227A–228C, 229A–230C, 231A–232B 1: 257, 258B, 275–278, 278B, 279–282, 282B, 291–294, 294B 2: 127–130, 130B, 187–190, 190B, 357, 543–546, 546B, 590</p>

**Scott Foresman – Addison Wesley enVisionMATH
to the
Pennsylvania Mathematics Assessment Anchors for Grade 3**

Grade Three

M3.A Numbers and Operations

ASSESSMENT ANCHOR

M3.A.1 Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers and number systems.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M3.A.1.1 Apply place-value concepts and numeration to counting, ordering, grouping and equivalency. Reference: 2.1.3.C, 2.1.3.I, 2.11.3.A	M3.A.1.1.1 Match the word name with the appropriate whole number (up through 9,999).	4–5, 5B, 6B, 6–7, 8–9, 9B, 10–11, 11B
	M3.A.1.1.2 Differentiate between and/or give examples of even and odd number (limit to 3 digits).	122
	M3.A.1.1.3 Compare two whole numbers using greater than (>), less than (<) or equal to (=) (up through 9,999).	12B, 12–14, 15B
	M3.A.1.1.4 Order a set of whole numbers from least to greatest or greatest to least (up through 9,999; limit sets to no more than four numbers).	16B, 16–17, 17B

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
(continued)	M3.A.1.1.5 Match a symbolic representation of numbers to appropriate whole numbers (e.g., base ten blocks, 7 hundreds, 4 tens and 8 ones, etc).	4B, 4–5, 5B, 6B, 6–7, 7B, 8B, 8–9, 9B, 10B, 10–11, 11B
M3.A.1.2 Use fractions to represent quantities as part of a whole or part of a set. Reference: 2.1.3.D	M3.A.1.2.1 Write the fraction that corresponds to a drawing or part of a set (numerators 1-9, denominators 2-10. No equivalent or improper fractions or mixed numbers).	278B, 278–279, 279B, 280B, 280–281, 281B
	M3.A.1.2.2 Create a drawing or set that represents a given fraction (numerators 1-9, denominators 2-10. No equivalent or improper fractions or mixed numbers).	278B, 278, 279B, 280B, 280–281, 281B
M3.A.1.3 Count, compare and make change using a collection of coins and one-dollar bills. Reference: 2.1.3.E	M3.A.1.3.1 Count a collection of bills and coins less than \$5.00 (penny, nickel, dime, quarter, dollar). Money may be represented as 15 cents, 15¢ or \$0.15.	18B, 18–21, 21B, 308B, 308–311, 311B
	M3.A.1.3.2 Compare total values of combinations of coins less than \$5.00 (penny, nickel, dime, quarter, dollar).	20

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
(continued)	M3.A.1.3.3 Make change for an amount up to \$5.00 with no more than \$2.00 change given (penny, nickel, dime, quarter, dollar).	22B, 22–23, 23B

ASSESSMENT ANCHOR

M3.A.2 Understand the meanings of operations, use operations and understand how they relate to each other.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M3.A.2.1 Understand various meanings of operations and the relationship between them. Reference: 2.1.3.K, 2.2.3.C, 2.5.3.C	M3.A.2.1.1 Represent multiplication as repeated addition.	108B, 108–109, 109B, 110–111
	M3.A.2.1.2 Demonstrate the inverse relationship between addition and subtraction using fact families and/or factors.	66B, 66–67, 67B, 68–70, 71
	M3.A.2.1.3 Identify the correct operation(s) to solve a word problem (no more than 2 operations using +, - and/or X).	47, 58B, 58–59, 59B, 77, 78B, 78–79, 79B, 98B, 98–100, 100B, 113, 118B, 118–119, 121B, 132B, 132–133, 147, 154B, 154–156, 157B, 215, 224B, 224B, 224–226, 426B, 426–428

ASSESSMENT ANCHOR**M3.A.3** Compute accurately and fluently and make reasonable estimates.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M3.A.3.1 Solve problems using addition, subtraction and multiplication (straight computation and word problems). Reference: 2.1.3.L, 2.2.3.B	M3.A.3.1.1 Solve single- and double- digit addition and subtraction problems with and without regrouping in vertical or horizontal form.	32B, 32–33, 33B, 34B, 34–35, 35B, 36B, 36–38, 39B, 48B, 48–49, 49B, 66B, 66–67, 67B, 68B, 68–70, 71, 71B, 72B, 72–73, 73B, 86B, 86–87, 87B, 88B, 88–89, 89B
	M3.A.3.1.2 Solve problems involving multiplication through the 9’s tables through 9x5.	110B, 110–113, 113B, 114B, 114–115, 115B, 116B, 116–117, 117B, 122B, 122–124, 125, 125B, 128B, 128–129, 129B, 130B, 130–131, 131B, 140B, 140–141, 141B, 142B, 142–143, 143B, 144B, 144–146, 147, 147B, 148–149, 149B, 319
	M3.A.3.1.3 Solve triple digit addition and subtraction problems without regrouping in vertical or horizontal form.	44B, 44–45, 47B, 51, 54, 74B, 74–75, 77B, 90
M3.A.3.2 Use estimation skills to arrive at conclusions. Reference: 2.2.3.E	M3.A.3.2.1 Estimate sums and differences of quantities; round 2-digit numbers to the nearest 10, and 3 digit numbers to the nearest 100, before computing (limit to two numbers).	40B, 40–42, 43B, 44B, 44–45, 47B, 74B, 74–75, 77B, 319

M3.B Measurement

ASSESSMENT ANCHOR

M3.B.1 Demonstrate an understanding of measurable attributes of objects and figures, and the units, systems and processes of measurement.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M3.B.1.1 Determine or calculate time and elapsed time. Reference: 2.3.3.C, 2.3.3.D	M3.B.1.1.1 Tell/show time (analog) to the minute.	396B, 396–397, 397B
	M3.B.1.1.2 Find elapsed time to increments of 5 minutes (limited to 2 adjacent hours).	400B, 400–401, 401B
	M3.B.1.1.3 Identify times of the day and night as AM and PM.	392, 400
M3.B.1.2 Use the attributes of length, area, volume and weight of objects. Reference: 2.3.3.A, 2.3.3.E	M3.B.1.2.1 Select an appropriate unit for the attribute being measured.	334B, 334–337, 337B, 340B, 340–341, 341B, 352B, 352–354, 355B, 368B, 368–369, 369B, 370B, 370–371, 371B, 378B, 378–379, 379B, 380B, 380–382, 383B, 384B, 384–385, 385B
	M3.B.1.2.2 Compare and/or order objects according to length, area, or weight.	See Grade 2.

ASSESSMENT ANCHOR

M3.B.2 Apply appropriate techniques, tools and formulas to determine measurements.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M3.B.2.1 Determine the measurement of objects with non-standard and standard units. Reference: 2.3.3.B, 2.3.3.F	M3.B.2.1.1 Use a ruler (provided) to measure to the nearest $\frac{1}{2}$ inch.	332B, 332–333, 333B

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
<p>M3.B.2.2 Estimate measurements of familiar objects.</p> <p>Reference: 2.3.3.G</p>	<p>M3.B.2.2.1 Match the object with its approximate measurement (all measurements given must be of the same system, e.g., about how tall is a soda pop can? 5 inches, 5 feet, 5 yards, etc.).</p>	<p>334B, 334–337, 337B, 338B, 338–339, 339B, 340B, 340–341, 341B, 353–354, 356B, 356–357, 357B, 358B, 358–359, 359B</p>

M3.C Geometry

ASSESSMENT ANCHOR

M3.C.1 Analyze characteristics and properties of two– and three– dimensional geometric shapes and demonstrate understanding of geometric relationships.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
<p>M3.C.1.1 Identify and/or describe two- and three-dimensional objects.</p> <p>Reference: 2.9.3.A</p>	<p>M3.C.1.1.1 Name/identify/describe geometric shapes in two dimensions (circle, square, rectangle, triangle, pentagon, hexagon, octagon).</p>	<p>246B, 246–247, 247B, 248B, 248–249, 249B, 250B, 250–251, 251B, 252B, 252–253, 253B</p>
	<p>M3.C.1.1.2 Name/identify geometric shapes in three dimensions (sphere, cube, cylinder, cone, pyramid, rectangular prism).</p>	<p>234B, 234–237, 237B, 238B, 238–240, 241B</p>

ASSESSMENT ANCHOR**M3.C.2** Identify and/or apply concepts of transformations or symmetry.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M3.C.2.1 Apply the concepts of transformations and symmetry. Reference: 2.9.3.E, 2.9.3.F, 2.9.3.H	M3.C.2.1.1 Identify/draw one line of symmetry in a two-dimensional figure.	264B, 264–265, 265B, 266B, 266–267, 267B
	M3.C.2.1.2 Identify symmetrical two-dimensional shapes.	264B, 264–265, 265B, 266B, 266–267, 267B

M3.D Algebraic Concepts**ASSESSMENT ANCHOR****M3.D.1** Demonstrate an understanding of patterns, relations and functions.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M3.D.1.1 Recognize, describe, or extend a variety of patterns. Reference: 2.8.3.A, 2.11.3.D	M3.D.1.1.1 Extend or find a missing element in a pattern of numbers or shapes (pattern must show 3 repetitions – if multiples are used, limit to 2, 3 or 5).	206B, 206–207, 207B, 208B, 208–209, 209B, 210B, 210–211, 211B, 212B, 212–214, 215B, 218B, 218–221, 221B, 227, 298B, 298–299, 299B
	M3.D.1.1.2 Identify/describe the rule for a pattern shown (pattern must show 3 repetitions – if multiples are used, limit to 2, 3 or 5).	206B, 206–207, 207B, 208B, 208–209, 209B, 212B, 212–213, 215B, 218B, 218–219, 219B, 227

ASSESSMENT ANCHOR

M3.D.2 Represent and/or analyze mathematical situations using numbers, symbols, words, tables and/or graphs.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M3.D.2.1 Create/model expressions, equations and inequalities to match a problem situation. Reference: 2.8.3.D	M3.D.2.1.1 Create or match a story to a given combination of symbols (+, −, ×, <, >, =) and numbers.	100, 216B, 216–217, 217B, 222B, 222, 223B
	M3.D.2.1.2 Choose the number sentence that matches a given story (one operation, + or − only).	78B, 78–79, 79B, 98B, 98–100, 101B, 118B, 118–119, 121B, 222B, 222–223, 223B, 316B, 316–318, 319B
M3.D.2.2 Determine the missing number or symbol in a number sentence. Reference: 2.8.3.B, 2.8.3.F	M3.D.2.2.1 Find a missing number that makes a number sentence true (1-digit or 2-digit numbers up to 18 using +, - or x through 9 x 5).	32B, 32–33, 33B, 36B, 36–38, 39, 39B, 71, 73, 108B, 108–109, 109B, 111–112, 113B, 184, 185B, 222B, 222–223, 223B
	M3.D.2.2.2 Identify the missing symbol (+, −, =, <, >) that makes a number sentence true.	12B, 12–14, 15B, 35, 35B, 43, 124, 125B, 131, 147, 189, 222B, 222–223, 223B

M3.E Data Analysis and Probability

ASSESSMENT ANCHOR

M3.E.1 Formulate or answer questions that can be addressed with data and/or organize, display, interpret or analyze data.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M3.E.1.1 Answer questions based on data shown on tables, charts, and bar graphs. Reference: 2.6.3.B, 2.7.3.D, 2.11.3.B	M3.E.1.1.1 Analyze data shown on tables, charts, or bar graphs using the concepts of largest, smallest, most often, least often and middle.	458B, 458–459, 459B, 460B, 460–462, 463B, 466B, 466–467, 467B, 482B, 482–483, 483B
	M3.E.1.1.2 Describe, interpret and/or answer questions based on data shown in tables, charts or bar graphs.	218B, 218–221, 221B, 458B, 458–459, 459B, 460B, 460–463, 463B, 466B, 466–467, 467B, 482B, 482–483, 483B
M3.E.1.2 Organize or display data using tables, charts, bar graphs. Reference: 2.6.3.A, 2.7.3.C	M3.E.1.2.1 Graph data or complete a graph given the data (grid is provided).	466B, 466–467, 467B
	M3.E.1.2.2 Translate information from one type of display to another (e.g., convert tally chart to bar graph). Limit to tally charts, bar graphs and tables.	458B, 458–459, 459B, 466B, 466–467, 467B

**Scott Foresman – Addison Wesley enVisionMATH
to the
Pennsylvania Mathematics Assessment Anchors for Grade 4**

Grade Four

M4A. Numbers and Operations

ASSESSMENT ANCHOR

M4A.1 Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers and number systems

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M4A.1.1 Use models and/or words to represent quantities as decimals, fractions and mixed numbers	M4.A.1.1.1 Write the fraction or decimal, including mixed numbers, which corresponds to a drawing or set – no simplification necessary.	216B, 216–218, 219B, 222B, 222–223, 223B, 230B, 230–231, 268B, 268–269, 269B, 274B, 274–275, 275B
	M4.A.1.1.2 Create a drawing or set that represents a given fraction or decimal, including mixed numbers (through the tenths).	216B, 216–218, 219B
	M4.A.1.1.3 Match the standard number form to the word form of decimal numbers (through the tenths place).	268B, 268–269, 269B (hundredths place.)
	M4.A.1.1.4 Write whole numbers in expanded, standard and/or word form through 6 digits (example of standard to expanded form: $43,076 = 40,000+3000+70+6$).	4B, 4–6, 7B

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M4A.1.2 Compare quantities and magnitudes of numbers	M4.A.1.2.1 Locate/identify fractions or decimals on a number line (decimals and fractions through the tenths – do not mix fractions and decimals).	276B, 276–278, 279B
	M4.A.1.2.2 Compare and/or order whole numbers through 6 digits and amounts of money to \$100 (limit sets for ordering, to no more than 4 numbers).	10B, 10–13, 13B
M4A.1.3 Develop and/or apply number theory concepts to represent numbers in various ways	M4.A.1.3.1 Find/list/identify all factors through 10 of any given number.	182B, 182–183, 183B
	M4.A.1.3.2 Find/list/identify multiples of a number, where the multiples do not exceed 100.	58B, 58–59, 59B

ASSESSMENT ANCHOR

M4A.2. Understand meanings of operations, use operations and understand how they relate to each other

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M4A.2.1 Use operations to solve problems (may include word problems)	M4A.2.1.1 Solve problems involving all operations with whole numbers, and/or explain the solution (limit to two-step problems; e.g., multiply then add – single digit multipliers and divisors)	156B, 156–157, 157B, 186B, 186–187, 187B
	M4A.2.1.2 Solve problems involving addition, subtraction or multiplication with decimals through the tenths or money to the cent and/or explain the solution Limit to two-step problems.	300B, 300–302, 303B, 304B, 304–305, 305B, 308B, 308–309, 309B

ASSESSMENT ANCHOR

M4A.3. Compute accurately and fluently and make reasonable estimates

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M4.A.3.1 Apply rounding and/or estimation strategies to solve problems.	M4.A.3.1.1 Round whole numbers to the nearest ten, hundred, thousand, ten-thousand or hundred-thousand.	14B, 14–15, 15B

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
(continued)	M4.A.3.1.2 Round amounts of money to the nearest dollar.	Related content: 14B, 14-15, 15B, 290B, 290-291, 293B
	M4.A.3.1.3 Estimate the answer to addition, subtraction and multiplication problems using whole numbers through 6 digits (for multiplication, no more than 2 digits X 1 digit, excluding powers of 10).	32B, 32–33, 33B, 100B, 100–101, 101B
M4.A.3.2 Compute using fractions or decimals (written vertically or horizontally – straight computation only).	M4.A.3.2.1 Solve addition or subtraction problems involving decimals through hundredths (decimal numbers must have the same number of places).	300B, 300–302, 303B, 308B, 308–309, 309B
	M4.A.3.2.2 Solve addition or subtraction problems with fractions with like denominators (denominators to 10, no simplifying necessary).	250B, 250–253, 253B

M4B. Measurement

ASSESSMENT ANCHOR

M4B.1. Demonstrate an understanding of measurable attributes of objects and figures, and the units, systems and processes of measurement

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M4.B.1.1 Determine time and/or calculate elapsed time.	M4.B.1.1.1 Match/construct analog time (a picture of a clock), to the same time written in digital.	386B, 389, 389B
	M4.B.1.1.2 Identify time (analog or digital) as the amount of minutes before and/or after the hour (e.g., 2:50 is the same as 10 minutes before 3:00; quarter past six is the same as 6:15).	386B, 386–387, 389B
	M4.B.1.1.3 Calculate the elapsed time, to the minute, in a given situation (limited to 2 adjacent hours).	386B, 386–388, 389B
	M4.B.1.1.4 Determine the beginning or ending time, given the elapsed time (limited to 2 adjacent hours).	386B, 386–388, 389B

ASSESSMENT ANCHOR**M4B.2.** Apply appropriate techniques, tools and formulas to determine measurements

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M4.B.2.1 Select and/or use appropriate tools and/or attributes for measuring quantities.	M4.B.2.1.1 Use or read a ruler (provided) to measure to the nearest $\frac{1}{4}$ inch or centimeter.	364B, 364–365, 365B, 374B, 374–375, 375B
M4.B.2.2 Estimate measurements of figures.	M4.B.2.2.1 Make reasonable estimates of weights, lengths and capacities of familiar objects (measurements in the same system).	364B, 364–365, 365B, 366B, 366–367, 367B, 368B, 368–369, 369B, 374B, 374–375, 375B, 376B, 376–377, 377B, 378B, 378–379, 379B

M4C. Geometry**ASSESSMENT ANCHOR****M4C.1** Analyze characteristics and properties of two– and three– dimensional geometric shapes and demonstrate understanding of geometric relationships

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M4.C.1.1 Identify/describe the basic properties of geometric figures in two or three dimensions.	M4.C.1.1.1 Identify, classify and/or compare two-dimensional figures (circle, triangle, square, parallelogram, trapezoid, rhombus, rectangle, pentagon, hexagon, octagon).	202B, 202–203, 203B, 204B, 204–205, 205B, 206B, 206–207, 207B
	M4.C.1.1.2 Identify or classify three-dimensional figures (cube, sphere, rectangular prism and pyramid).	346B, 346–349, 349B, 350B, 350–351, 351B

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M4.C.1.2 Represent and/or use properties or relationships of points, lines, line segments, rays and angles.	M4.C.1.2.1 Identify points, lines, line segments or rays.	196B, 196–197, 197B, 198B, 198–199, 199B
	M4.C.1.2.2 Identify parallel and perpendicular lines.	196B, 196–197, 197B

ASSESSMENT ANCHOR

M4C.2. Identify and /or apply concepts of transformations and symmetry

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M4.C.2.1 Apply the concepts of reflection and symmetry.	M4.C.2.1.1 Identify or create figures that have one, two or no lines of symmetry.	456B, 456–457, 457B

ASSESSMENT ANCHOR

M4C.3 Locate and describe relationships using the coordinate plane

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M4.C.3.1 Locate points on a simple grid.	M4.C.3.1.1 Match or plot the ordered pair with the appropriate point (or object) on a simple grid.	408B, 408–409, 409B

4D. Algebraic Concepts

ASSESSMENT ANCHOR

4D.1. Demonstrate an understanding of patterns, relations and functions

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M4.D.1.1 Recognize, describe, extend, create and/or replicate a variety of patterns.	M4.D.1.1.1 Extend or find a missing element in a numerical or geometric pattern (+, - or x may be used – numerical patterns must be whole numbers).	58B, 58–59, 59B, 128B, 128–129, 129B, 130B, 130–131, 131B, 132B, 132–133, 133B, 356B, 356–357, 357B
	M4.D.1.1.2 Identify/describe the rule for a numerical or geometric pattern shown (+, - or x may be used – numerical patterns must be whole numbers).	130B, 130–131, 131B
	M4.D.1.1.3 Create or replicate a numerical or geometric pattern showing 3 repetitions (+, - or x may be used – numerical patterns must be whole numbers or money).	128B, 128–129, 129B, 356B, 356–357, 357B
M4.D.1.2 Apply simple function rules.	M4.D.1.2.1 Determine the missing elements in a function table (functions may use +, - or x and whole numbers or money).	128B, 128–129, 129B, 130B, 130–131, 131B, 132B, 132–133, 133B
	M4.D.1.2.2 Determine the rule for a function given a table (functions may use +, - or x and whole numbers).	130B, 130–131, 131B, 132B, 132–133, 133B

ASSESSMENT ANCHOR

4D.2. Represent and/or analyze mathematical situations and structures using algebraic symbols, words, tables and graphs

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M4.D.2.1 Use numbers and symbols to model the concepts of expressions and/or equations.	M4.D.2.1.1 Correlate story situations with expressions or equations (may use numbers and one operation +, - or \times ; no variables).	44B, 44–45, 47B, 68B, 68–69, 69B, 86B, 86–88, 89B, 116B, 116–118, 119B, 258B, 258–259, 261B
M4.D.2.2 Determine the missing number or symbol in a number sentence.	M4.D.2.2.1 Solve for a missing number in an equation (using estimation, guess & check, etc.). May use +, - or single digit \times or \div .	31, 44B, 44–45, 47B, 68B, 68–69, 69B, 79, 80B, 80–81, 81B, 86B, 86–88, 89B, 116B, 116–118, 119B, 258B, 258–259, 261B, 303, 432B, 432–433, 433B, 434B, 434–435, 435B, 436B, 436–437, 437B
	M4.D.2.2.2 Identify the missing symbol (+, -, \times , \div , =, <, >) that makes a number sentence true (single digit \times or \div only).	10–11, 13B, 82, 113, 234–235, 270–271

M4E. Data Analysis and Probability**ASSESSMENT ANCHOR**

M4E.1 Formulate questions that can be addressed with data and/or collect, organize, display and analyze data

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M4.E.1.1 Interpret data shown on tables, charts, line graphs, bar graphs or pictographs.	M4.E.1.1.1 Describe, interpret and/or answer questions based on data shown in tables, charts, bar graphs or pictographs.	402B, 402–403, 403B, 404B, 404–405, 405B, 420B, 420–423, 423B

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M4.E.1.2 Organize or display data using tables, bar graphs, line graphs or pictographs.	M4.E.1.2.1 Graph data or complete a graph given the data (bar graph or pictograph – grid is provided).	420B, 420–421, 423, 423B
	M4.E.1.2.2 Translate information from one type of display to another (table, chart, bar graph, or pictograph).	420B, 420–421, 423, 423B

ASSESSMENT ANCHOR

M4E.3 Understand and apply basic concepts of probability

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M4.E.3.1 Predict and/or measure the likelihood of events.	M4.E.3.1.1 Make a prediction based on data or chance (data may be shown in tables, charts, line graphs, bar graphs or pictographs)	Related content: 472B, 472–474, 475B

**Scott Foresman – Addison Wesley enVisionMATH
to the
Pennsylvania Mathematics Assessment Anchors for Grade 5**

Grade Five

M5.A Numbers and Operations

ASSESSMENT ANCHOR

M5.A.1 Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers and number systems.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M5.A.1.1 Express numbers in equivalent forms. Reference: 2.1.5.A	M5.A.1.1.1 Use expanded notation to represent whole numbers or decimals (whole numbers less than 10,000,000 and decimals through hundredths).	4–5, 5B, 10–11, 11B
M5.A.1.2 Demonstrate understanding of place value of whole numbers and decimals. Reference: 2.1.3.I	M5.A.1.2.1 Match the standard form to the word form of decimal numbers through the hundredths.	10B, 10–11, 11B
	M5.A.1.2.2 Identify the place value of a digit (from millions through hundredths).	4B, 4–5, 5B, 10–11, 11B
M5.A.1.3 Compare quantities or magnitudes of numbers. Reference: 2.11.5.A	M5.A.1.3.1 Compare whole numbers through 9 digits using the words more, less, equal, least, most, greater than, less than or the symbols <, >, =.	6B, 6–7, 9B

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
(continued)	M5.A.1.3.2 Compare and/or order decimals through the hundredths. (Limit sets for ordering to no more than 4 numbers.)	12B, 12–13, 13B
	M5.A.1.3.3 Compare proper fractions through 16ths with like and unlike denominators.	230B, 230–231, 213B
M5.A.1.4 Use simple applications of negative numbers (number line, counting, temperature). Reference: 2.1.5.F	M5.A.1.4.1 Locate/Identify integers on a number line (greater than or equal to -20).	412B, 412–413, 413B
	M5.A.1.4.2 Identify negative temperatures on a thermometer (through -20°C or °F).	413B
M5.A.1.5 Use or develop models to represent fractions and/or mixed numbers. Reference: 2.1.5.D	M5.A.1.5.1 Use or develop regions and/or sets (e.g., circle graph, base ten blocks) to model fractions and mixed numbers through hundredths (may include reducing the fractions).	218C, 218D, 220B, 220–222, 223B, 224B, 224–225, 226B, 226–227
M5.A.1.6 Apply number theory concepts (i.e., primes, factors, multiples, composites). Reference: 2.1.5.E	M5.A.1.6.1 Define/list/identify prime and composite numbers less than or equal to 100.	106B, 106–108, 109B
	M5.A.1.6.2 Define/list/identify factors and/or multiples of a given whole number less than or equal to 50.	60–61, 61B, 260B, 260–261, 261B, 232B, 232–233, 233B

ASSESSMENT ANCHOR

M5.A.2 Understand the meanings of operations, use operations and understand how they relate to each other.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
<p>M5.A.2.1 Solve problems involving decimals, fractions and/or whole numbers (straight computation or word problems).</p> <p>Reference: 2.2.5.A, 2.2.5.B, 2.2.5.C, 2.2.5.I</p>	<p>M5.A.2.1.1 Solve problems involving addition, subtraction, multiplication and division of whole numbers (multipliers up to 2 digits – divisors one digit) and decimals including money (answer through hundredths – no division with decimals).</p>	<p>38B, 38–39, 39B, 42B, 42–43, 43B, 44B, 44–45, 45B, 170B, 170–171, 171B, 172B, 172–173, 173B, 176B, 176–177, 177B, 178B, 178–179, 179B, 180B, 180–181, 181B, 184B, 184–185, 185B, 186B, 186–187, 187B, 278B, 278–279, 279B</p>
	<p>M5.A.2.1.2 Solve problems involving addition and subtraction of fractions (through 16ths – like and unlike denominators – for unlike denominators, the LCD must be one of the given denominators).</p>	<p>256B, 256–257, 257B, 262B, 262–263, 263B, 264B, 264–265, 265B</p>
	<p>M5.A.2.1.3 Choose the correct operation(s) to solve a problem (no more than 2 operations).</p>	<p>38, 42, 44, 46B, 46–48, 49B, 64, 70, 84, 86, 90, 98, 122, 126B, 126–127, 127B, 128, 130, 134, 170, 172, 178, 180, 184, 186, 188B, 188–190, 191B, 256, 262, 264, 266, 268, 284</p>

ASSESSMENT ANCHOR**M5.A.3** Compute accurately and fluently and make reasonable estimates.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M5.A.3.1 Apply estimation strategies to a variety of problems. Reference: 2.2.5.D, .2.5.E, 2.2.5.G	M5.A.3.1.1 Round whole numbers through millions and decimals through hundredths.	28B, 28–29B, 29B
	M5.A.3.1.2 Use estimation to solve problems involving whole numbers and/or decimals (up to 2-digit multipliers, single-digit divisors or multiples of 10; whole numbers through thousands and decimals through hundredths).	30–32, 32B, 62B, 62–63, 63B, 86B, 86–87, 87B, 130–131, 174B 174–175, 175B, 184B, 184–185, 185B
M5.A.3.2 Compute accurately without the use of a calculator (straight computation or 1 operation word problems). Reference: 2.2.5.A	M5.A.3.2.1 Use addition, subtraction, multiplication and division to compute accurately without a calculator (multipliers up to 2 digits, single-digit divisors or multiples of 10 – whole numbers through thousands and decimals through hundredths – no division with decimals).	38B, 38–39, 39B, 42B, 42–43, 43B, 44B, 44–45, 45B, 170B, 170–171, 171B, 172B, 172–173, 173B, 176B, 176–177, 177B, 178B, 178–179, 179B, 180B, 180–181, 181B, 184B, 184–185, 185B, 186B, 186–187, 187B, 278B, 278–279, 279B

M5.B Measurement

ASSESSMENT ANCHOR

M5.B.1 Demonstrate an understanding of measurable attributes of objects and figures, and the units, systems and processes of measurement.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
<p>M5.B.1.1 Select appropriate units (customary or metric) to measure specific attributes of objects.</p> <p>Reference: 2.3.5.A</p>	<p>M5.B.1.1.1 Select the appropriate unit for measuring weight (mass), capacity, length, perimeter and area.</p>	<p>296B, 296–297, 297B, 298B, 298–299, 299B, 300B, 300–303, 303B, 304B, 304–305, 306B, 306–307, 308B, 308–309, 328B, 328–329, 348B, 348–349, 350B, 350–351, 352B, 352–353</p>
<p>M5.B.1.2 Solve problems using simple conversions and/or add and subtract measurements.</p> <p>Reference: 2.3.5.D, 2.3.5.E</p>	<p>M5.B.1.2.1 Convert using linear measurements, capacity, and weight (mass) within the same system to the unit immediately above or below the given unit (using only the units below – use a conversion chart or a “hint” with problems e.g., hint: 16oz = 1lb).</p> <ul style="list-style-type: none"> • Metric using mm, cm, m and km; mL and L; g and kg • Customary using cup, pint, quart, gallon; in, ft, yd; oz, lb 	<p>354B, 354–355, 355B, 356B, 356–357, 357B</p>
	<p>M5.B.1.2.2 Add or subtract linear measurements, (feet and inches) or units of time (hours and minutes), without having to regroup with subtraction (answer should be in simplest form).</p>	<p>300B, 300–303, 303B, 358B, 358–361, 361B, 362B, 362–363, 363B</p>

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M5.B.1.3 Estimate and/or compare the perimeters or areas of 2 figures without computation. Reference: 2.11.5.E, 2.3.5.C	M5.B.1.3.1 Estimate which polygon (shown on a grid) has a greater perimeter or area (compare either area to area or perimeter to perimeter).	Related content: 300B, 300–301, 303B, 304B, 304–305, 305B
	M5.B.1.3.2 Estimate the area of an irregular figure shown on a grid.	Related content: 306B, 306–307, 307B, 308B, 308–309, 309B

ASSESSMENT ANCHOR

M5.B.2 Apply appropriate techniques, tools and formulas to determine measurements.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M5.B.2.1 Use appropriate tools to determine measurements. Reference: 2.3.5.B	M5.B.2.1.1 Use a ruler to measure to the nearest 1/8 inch or centimeter.	296B, 296–297, 297B, 298B, 298–299, 298B
M5.B.2.2 Solve problems involving length, time, weight (mass), capacity, temperature, perimeter and/or area. Reference: 2.3.5.A, 2.3.5.B	M5.B.2.2.1 Find the perimeter of a figure drawn and labeled (with the same units throughout).	300B, 300–301, 303B
	M5.B.2.2.2 Find the area of a square or rectangle (with the same units throughout - whole numbers only).	304B, 304–305, 305B

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
(continued)	M5.B.2.2.3 Solve problems involving weight, time, temperature, length and capacity (with the same units throughout - limited to 3 digits).	352B, 352–353, 358B, 358–361, 361B, 362B, 362–363, 363B, 364B, 364–365, 365B

M5.C Geometry

ASSESSMENT ANCHOR

M5.C.1 Analyze characteristics and properties of two– and three– dimensional geometric shapes and demonstrate understanding of geometric relationships.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M5.C.1.1 Define and/or use basic properties of quadrilaterals (parallelograms, squares, rectangles, trapezoids, rhombi), triangles, circles, pyramids, cubes, and/or prisms. Reference: 2.9.5.B, 2.9.5.C, 2.9.5.F, 2.10.5.A	M5.C.1.1.1 Identify, and/or classify cubes, rectangular prisms or pyramids using faces, vertices and edges.	322B, 322–322, 325B
	M5.C.1.1.2 Identify and/or describe properties of all types of quadrilaterals (parallelogram, rectangle, rhombus, square, trapezoid).	210B, 210–211, 211B
M5.C.1.2 Represent and/or use properties of lines, line segments, rays, points and planes. Reference: 2.9.5.I	M5.C.1.2.1 Identify, draw and/or label points, lines, line segments and rays.	200B, 200–201, 203B

ASSESSMENT ANCHOR**M5.C.2** Identify and/or apply concepts of transformations or symmetry.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M5.C.2.1 Analyze transformations and/or use symmetry to analyze mathematical situations. Reference: 2.9.5.K, 2.9.5.L	M5.C.2.1.1 Draw or identify a translation (slide), reflection (flip) or rotation (turn) of a 2-dimensional shape.	464B, 464–467, 467B, 468B, 468–469, 469B, 470B, 470–471, 471B
	M5.C.2.1.2 Identify the number of lines of symmetry and/or draw all lines of symmetry in a two-dimensional polygon.	474B, 474–476, 476B

M5.D Algebraic Concepts**ASSESSMENT ANCHOR****M5.D.1** Demonstrate an understanding of patterns, relations and functions.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M5.D.1.1 Create or extend patterns. Reference: 2.8.5.A	M5.D.1.1.1 Extend or find a missing element in a numerical or simple geometric pattern (+, -, x or ÷ of whole numbers). Pattern must show 3 repetitions.	14B, 14-15, 17B, 33, 77, 148B, 382B, 382-383, 385B, 404B, 404-405, 405B
	M5.D.1.1.2 Create or replicate a numerical or geometric pattern showing 3 repetitions of that pattern (+, -, x or ÷ of whole numbers may be used).	33, 77, 148B, 404B, 404-405, 405B

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M5.D.1.2 Analyze patterns. Reference: 2.8.5.C	M5.D.1.2.1 Form a rule based on a given pattern, or illustrate a pattern based on a given rule (+, -, x or ÷ of whole numbers may be used). Patterns must show 3 repetitions.	148B, 148–149, 151B, 382B, 382–384, 385B

ASSESSMENT ANCHOR

M5.D.2 Represent and/or analyze mathematical situations using numbers, symbols, words, tables and/or graphs.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M5.D.2.1 Select and/or use appropriate strategies, including concrete materials, to solve or represent expressions or number sentences. Reference: 2.8.5.G, 2.8.5.F	M5.D.2.1.1 Solve for a missing number (blank, question mark, variable) in an equation involving a single operation whole numbers only.	376B, 376–377, 377B, 378B 378–379, 379B
	M5.D.2.1.2 Match a realistic situation to an equation, expression, inequality (<, >, =), table or graph (variable must be isolated, e.g., $17 + 39 = n$).	380B, 380–381, 381B, 386B, 386–388, 388B

M5.E Data Analysis and Probability

ASSESSMENT ANCHOR

M5.E.1 Formulate or answer questions that can be addressed with data and/or organize, display, interpret or analyze data.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
<p>M5.E.1.1 Organize, display and/or interpret data using pictographs, tallies, tables, charts, line, bar graphs.</p> <p>Reference: 2.6.5.A</p>	<p>M5.E.1.1.1 Display and/or interpret data shown in tallies, tables, charts, pictographs, bar graphs, line graphs and using a title, appropriate scale, and labels. A grid will be provided to display data on bar graphs or line graphs.</p>	<p>366B, 382B, 382–383, 404B, 404–405, 366–367, 432B, 432–435, 435B, 436B, 436–439, 439B, 454B, 454–455, 455B</p>

ASSESSMENT ANCHOR

M5.E.2 Select and/or use appropriate statistical methods to analyze data.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
<p>M5.E.2.1 Describe data sets using mean, median, mode and/or range.</p> <p>Reference: 2.6.5.B</p>	<p>M5.E.2.1.1 Determine the mean/average (answer is a whole number), median (answer is a whole number or average of 2 numbers) and range of data (up to 10 numbers).</p>	<p>450B, 450–451, 451B, 452B, 452–453, 453B, 485</p>
	<p>M5.E.2.1.2 Identify the mode in a set of data (up to 10 numbers).</p>	<p>452B, 452–453, 453B</p>

ASSESSMENT ANCHOR**M5.E.3** Understand and/or apply basic concepts of probability or outcomes.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M5.E.3.1 Predict or determine all possible combinations, outcomes and/or calculate the probability of a simple event. Reference: 2.7.5.E, 2.7.5.H, 2.7.5.J	M5.E.3.1.1 Predict or determine whether some outcomes are certain, more likely, less likely, equally likely, or impossible (information could be represented by pictographs, bar graphs, charts, tables and/or spinners).	484C, 488B, 488–489, 491B
	M5.E.3.1.2 Determine the probability of an outcome (e.g., a coin toss, a roll of a number cube) and express as a fraction without reduction.	488B, 488–489, 491B

**Scott Foresman – Addison Wesley enVisionMATH
to the
Pennsylvania Mathematics Assessment Anchors for Grade 6**

Grade Six

M6.A Numbers and Operations

ASSESSMENT ANCHOR

M6.A.1 Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers, and number systems.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M6.A.1.1 Express numbers in equivalent forms.	M6.A.1.1.1 Represent common percents as fractions and/or decimals (e.g., $25\% = \frac{1}{4} = .25$) – common percents are 1%, 10%, 25%, 50%, 75%, 100%.	344B, 344–346, 347B, 348B, 348–349, 349B (beyond common percents)
	M6.A.1.1.2 Convert between fractions and decimals and/or differentiate between a terminating decimal and a repeating decimal.	146B, 146–147, 147B, 150B, 150–152, 153B
	M6.A.1.1.3 Represent a number in exponential form (e.g., $10 \times 10 \times 10 = 10^3$).	10B, 10–12, 13B
	M6.A.1.1.4 Represent a mixed number as an improper fraction.	148B, 148–149, 149B

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M6.A.1.2 Compare quantities and/or magnitudes of numbers.	M6.A.1.2.1 Compare and/or order whole numbers, mixed numbers, fractions and/or decimals (do not mix fractions and decimals – decimals through thousandths).	8B, 8–9, 9B, 22B, 22–23, 23B
M6.A.1.3 Apply number theory concepts (i.e., factors, multiples).	M6.A.1.3.1 Find the Greatest Common Factor (GCF) of two numbers (through 50) and/or use the GCF to simplify fractions.	126B, 126–127, 127B, 134B, 134–135, 135B, 162B, 162–163, 163B
	M6.A.1.3.2 Find the Least Common Multiple (LCM) of two numbers (through 50) and/or use the LCM to find the common denominator of two fractions.	164B, 164–165, 165B, 166B, 166–168, 169B
	M6.A.1.3.3 Use divisibility rules for 2, 3, 5 and/or 10 to draw conclusions and/or solve problems.	120B, 120–122, 123B
M6.A.1.4 Use or develop models to represent percents.	M6.A.1.4.1 Model percents (through 100%) using drawings, graphs and/or sets (e.g., circle graph, base ten blocks, etc)	344B, 344–346, 347B

ASSESSMENT ANCHOR

M6.A.2 Understand the meanings of operations, use operations and understand how they relate to each other.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M6.A.2.1 Select and/or use operations to simplify or solve problems.	M6.A.2.1.1 Complete equations by using the following properties: associative, commutative, distributive and identity.	34B, 34–35, 35B, 40B, 40–41, 41B

ASSESSMENT ANCHOR

M6.A.3 Compute accurately and fluently and make reasonable estimates.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M6.A.3.1 Apply estimation strategies to a variety of problems.	M6.A.3.1.1 Use estimation to solve problems involving whole numbers and decimals (up to 2-digit divisors and 4 operations).	62B, 62–63, 63B, 66B, 66–67, 69B, 375
M6.A.3.2 Solve problems with and without the use of a calculator.	M6.A.3.2.1 Solve problems involving operations (+, -, x, ÷) with whole numbers, decimals (through thousandths) and fractions (avoid complicated LCDs) - straight computation or word problems.	21, 73, 131, 153, 214B, 214–215, 215B

M6.B Measurement

ASSESSMENT ANCHOR

M6.B.1 Demonstrate an understanding of measurable attributes of objects and figures, and the units, systems and processes of measurement.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M6.B.1.1 Compare and/or determine elapsed time.	M6.B.1.1.1 Determine and/or compare elapsed time to the minute (time may cross AM to PM or more than one day).	414B, 414–416, 417B

ASSESSMENT ANCHOR

M6.B.2 Apply appropriate techniques, tools and formulas to determine measurements.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M6.B.2.1 Choose or use appropriate tools and/or units to determine measurements within the same system.	M6.B.2.1.1 Use or read a ruler to measure to the nearest 1/16 inch or millimeter.	408B, 408–410, 411B
	M6.B.2.1.2 Choose the more precise measurement of a given object (e.g., smaller measurements are more precise).	408B, 408–410, 411B
	M6.B.2.1.3 Measure angles using a protractor up to 180° - protractor must be drawn - one side of the angle to be measured should line up with the straight edge of the protractor.	266B, 266–268, 269B

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M6.B.2.2 Solve problems involving length, perimeter, area and/or volume of geometric figures.	M6.B.2.2.1 Find the perimeter of any polygon (may include regular polygons where only the measure of one side is given – same units throughout).	426B, 426–428, 429, 429B
M6.B.2.3 Identify, label, and/or list properties of angles or triangles.	M6.B.2.3.1 Define, label and/or identify right, straight, acute and obtuse angles.	266B, 266–268, 269B

ASSESSMENT ANCHOR

M6.C.1 Analyze characteristics and properties of two– and three– dimensional geometric shapes and demonstrate understanding of geometric relationships.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M6.C.1.1 Define and/or use basic properties of triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons, nonagons, decagons and circles.	M6.C.1.1.1 Identify, classify and/or compare polygons (up to ten sides.)	274B, 274–276, 277B, 278B, 278–281, 281B
	M6.C.1.1.2 Identify and/or describe properties of all types of triangles (scalene, equilateral, isosceles, right, acute, obtuse).	274B, 274–276, 277B
	M6.C.1.1.3 Identify and/or determine the measure of the diameter and/or radius of a circle (when one or the other is given).	282B, 282–283, 283B

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
(continued)	M6.C.1.1.4 Identify and/or use the total number of degrees in a triangle, quadrilateral and/or circle.	274B, 274–276, 277B, 282B, 282–283, 283B, 480B, 480–482, 483B
M6.C.1.2 Represent and/or use concepts and relationships of lines and line segments.	M6.C.1.2.1 Identify, describe and/or label parallel, perpendicular or intersecting lines.	262B, 262–264, 265B
	M6.C.1.2.2 Identify, draw and/or label points, planes, lines, line segments, rays, angles and vertices.	262B, 262–264, 265B, 266B, 266–268, 269, 269B, 270B, 270–272, 273, 273B

ASSESSMENT ANCHOR

M6.C.3 Locate points or describe relationships using the coordinate plane.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M6.C.3.1 Identify, plot or match points given an ordered pair.	M6.C.3.1.1 Plot, locate or identify points in Quadrant I and/or on the x and y axes with intervals of 1, 2, 5 or 10 units - up to a 200 by 200 grid. Points may be in-between lines.	246B, 246–248, 249, 249B (all four quadrants.)

ASSESSMENT ANCHOR

M6.D.1 Demonstrate an understanding of patterns, relations and functions.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M6.D.1.1 Create or extend patterns.	M6.D.1.1.1 Create, extend or find a missing element in a pattern displayed in a table, chart or graph (pattern must show at least 3 repetitions - may use up to 2 operations with whole numbers).	48B, 48–49, 49B, 214B, 214–215, 215B, 290B, 290–291, 291B, 376B, 376–377, 377B, 378B, 378–379, 379B, 527
M6.D.1.2 Analyze patterns.	M6.D.1.2.1 Determine a rule based on a pattern or illustrate a pattern based on a given rule (displayed on a table, chart or graph; pattern must show at least 3 repetitions).	48B, 48–49, 49B, 376B, 376–377, 377B, 378B, 378–379, 379B

ASSESSMENT ANCHOR

M6.D.2 Represent and/or analyze mathematical situations and structures using algebraic symbols, words, tables, and graphs.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M6.D.2.1 Select and/or use appropriate strategies to solve number sentences.	M6.D.2.1.1 Identify the inverse operation needed to solve a one-step equation.	98B, 98–100, 101B, 106B, 106–108, 109B
	M6.D.2.1.2 Solve a one-step equation (i.e., using the inverse operation - whole numbers only).	98B, 98–100, 101B, 106B, 106–108, 109B, 110B, 110–113, 113B

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M6.D.2.2 Create and/or interpret expressions or equations that model problem situations.	M6.D.2.2.1 Match an equation or expression involving one variable, to a verbal math situation (one operation only).	32B, 32–33, 33B, 100, 102B, 102–103, 105B, 108, 110B, 110–112, 113B

M6.E Data Analysis and Probability

ASSESSMENT ANCHOR

M6.E.1 Formulate questions that can be addressed with data and/or collect, organize, display, and analyze data.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M6.E.1.1 Interpret data shown in frequency tables, histograms, circle, bar or double bar graphs, line or double line graphs or line plots.	M6.E.1.1.1 Analyze data and/or answer questions pertaining to data represented in frequency tables, circle graphs, double bar graphs, double line graphs or line plots (for circle graphs, no computation with percents).	476B, 476–478, 479B, 488B, 488–489, 489B, 494B, 494–496, 497B
	M6.E.1.1.2 Choose the appropriate representation for a specific set of data (choices should be the same type of graph).	484B, 484–485, 487B

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
	<p>M6.E.1.1.3 Display data in frequency tables, circle graphs, double-bar graphs, double line graphs or line plots using a title, appropriate scale, labels and a key when needed.</p> <p>Circle graphs for open-ended items must show a center point and tic marks.</p>	<p>476B, 476–478, 479B, 480B, 480–482, 483, 483B, 494B, 494–496, 497B</p>
<p>M6.E.2.1 Describe data sets using mean, median, mode and/or range.</p>	<p>M6.E.2.1.1 Determine/calculate the mean, median, mode and/or range of displayed data (data can be displayed in a table or line plot – use whole numbers only up to 2 digits).</p>	<p>490B, 490–492, 493, 493B, 500B, 500–501, 501B</p>

ASSESSMENT ANCHOR**M6.E.3** Understand and apply basic concepts of probability.

Pennsylvania Assessment Anchors	Eligible Content	Scott Foresman – Addison Wesley enVisionMATH
M6.E.3.1 Determine all possible combinations, outcomes and/or calculate the probability of a simple event.	M6.E.3.1.1 Define and/or find the probability of a simple event (express as a fraction in lowest terms).	528B, 528–529, 529B, 530B, 530–532, 533, 533B
	M6.E.3.1.2 Determine/show all possible combinations involving no more than 20 total arrangements (e.g., tree diagram, table, grid).	520B, 520–523, 523B, 524B, 524–526, 527B