



***VMath* Third Edition, Levels C–I, Grades 2–8**

## **Correlated to the Mathematics Florida Standards**

April 2015

Mathematics Florida Standards	VMath, Level C
<b>Grade 2</b>	
<b>Domain: Operations &amp; Algebraic Thinking</b>	
<b>Cluster 1: Represent and solve problems involving addition and subtraction.</b>	
MAFS.2.OA.1.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	Module 2: Lesson 5: 108-111 Module 2: Lesson 6: 112-115 Module 3: Lesson 3: 152-155 Module 3: Lesson 4: 156-159 Module 3: Lesson 6: 164-167 Module 3: Lesson 7: 168-171
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
MAFS.2.OA.1.a Determine the unknown whole number in an equation relating four or more whole numbers. For example, determine the unknown number that makes the equation true in the equations $37 + 10 + 10 = \_\_\_ + 18$ , $? - 6 = 13 - 4$ , and $15 - 9 = 6 + \_\_\_$ .	supports standard: Module 2: Lesson 4: 104-107 Module 2: Lesson 6: 112-115 Module 3: Lesson 4: 156-159
<b>Cluster 2: Add and subtract within 20.</b>	
MAFS.2.OA.2.2 Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.	Module 2: Lesson 1: 92-95 Module 2: Lesson 2: 96-99 Module 2: Lesson 3: 100-103 Module 2: Lesson 4: 104-107 Module 2: Lesson 5: 108-111 Module 2: Lesson 6: 112-115 Module 2: Lesson 9: 124-127 Module 2: Lesson 10: 128-131 Module 3: Lesson 1: 144-147 Module 3: Lesson 2: 148-151 Module 3: Lesson 4: 156-159
<i>Cognitive Complexity:</i> Level 1: Recall	
<b>Cluster 3: Work with equal groups of objects to gain foundations for multiplication.</b>	
MAFS.2.OA.3.3 Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.	Module 1: Lesson 4: 50-53
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
MAFS.2.OA.3.4 Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.	Module 2: Lesson 7: 116-119 Module 2: Lesson 8: 120-123 Module 7: Lesson 7: 388-391 Module 7: Lesson 8: 392-395
<i>Cognitive Complexity:</i> Level 1: Recall	
<b>Domain: Number &amp; Operations in Base Ten</b>	
<b>Cluster 1: Understand place value.</b>	
MAFS.2.NBT.1.1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: A. 100 can be thought of as a bundle of ten tens — called a “hundred.” B. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones)	Module 1: Lesson 6: 58-61

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Mathematics Florida Standards	VMath, Level C
<b>Grade 2</b>	
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
MAFS.2.NBT.1.2 Count within 1000; skip count by 2s, 5s, 10s, and 100s.	Module 1: Lesson 3: 46-49
<i>Cognitive Complexity:</i> Level 1: Recall	
MAFS.1.NBT.1.3 Read and write numbers to 1000 using base-ten notation, number names, and expanded form.	Module 1: Lesson 7: 62-65
<i>Cognitive Complexity:</i> Level 1: Recall	
MAFS.2.NBT.1.4 Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$ , $=$ , and $<$ symbols to record the results of comparisons.	Module 1: Lesson 5: 54-57 Module 1: Lesson 6: 58-61
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
<b>Cluster 2: Use place value understanding and properties of operations to add and subtract.</b>	
MAFS.2.NBT.2.5 Fluently add and subtract within 20. By end of Grade 2, know from memory sums of one-digit numbers.	Module 2: Lesson 1: 92-95 Module 2: Lesson 2: 96-99 Module 2: Lesson 3: 100-103 Module 2: Lesson 4: 104-107 Module 2: Lesson 5: 108-111 Module 2: Lesson 6: 112-115 Module 2: Lesson 9: 124-127 Module 2: Lesson 10: 128-131 Module 3: Lesson 1: 144-147 Module 3: Lesson 2: 148-151 Module 3: Lesson 3: 152-155 Module 3: Lesson 4: 156-159 Module 3: Lesson 7: 168-171
<i>Cognitive Complexity:</i> Level 1: Recall	
MAFS.2.NBT.2.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.	Module 2: Lesson 1: 92-95 Module 2: Lesson 2: 96-99 Module 2: Lesson 3: 100-103 Module 2: Lesson 4: 104-107 Module 2: Lesson 5: 108-111 Module 2: Lesson 6: 112-115 Module 2: Lesson 9: 124-127 Module 2: Lesson 10: 128-131 Module 2: Lesson 10: 128-131 Module 3: Lesson 1: 144-147 Module 3: Lesson 2: 148-151 Module 3: Lesson 3: 152-155 Module 3: Lesson 4: 156-159
<i>Cognitive Complexity:</i> Level 1: Recall	
MAFS.2.NBT.2.7 Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.	Module 2: Lesson 1: 92-95 Module 2: Lesson 2: 96-99 Module 2: Lesson 3: 100-103 Module 2: Lesson 4: 104-107 Module 2: Lesson 5: 108-111 Module 2: Lesson 6: 112-115 Module 2: Lesson 9: 124-127 Module 2: Lesson 10: 128-131

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<b>Mathematics Florida Standards</b>	<b>VMath, Level C</b>
<b>Grade 2</b>	
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 3: Lesson 1: 144-147 Module 3: Lesson 2: 148-151 Module 3: Lesson 3: 152-155 Module 3: Lesson 4: 156-159 Module 3: Lesson 9: 176-179 Module 3: Lesson 10: 180-183
MAFS.2.NBT.2.8 Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.  <i>Cognitive Complexity:</i> Level 1: Recall	Module 2: Lesson 7: 116-119 Module 3: Lesson 5: 160-163
MAFS.2.NBT.2.9 Explain why addition and subtraction strategies work, using place value and the properties of operations  <i>Cognitive Complexity:</i> Level 3: Strategic Thinking & Complex Reasoning	Module 3: Lesson 1: 144-147 Module 3: Lesson 7: 168-171
<b>Domain: Measurement and Data</b>	
<b>Cluster 1: Measure and estimate lengths in standard units.</b>	
MAFS.2.MD.1.1 Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 4: Lesson 1: 196-199 Module 4: Lesson 3: 204-207 Module 4: Lesson 4: 208-211
MAFS.2.MD.1.2 Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 4: Lesson 5: 212-215
MAFS.2.MD.1.3 Estimate lengths using units of inches, feet, centimeters, and meters.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 4: Lesson 3: 204-207
MAFS.2.MD.1.4 Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 4: Lesson 2: 200-203
<b>Cluster 2: Relate addition and subtraction to length.</b>	
MAFS.2.MD.2.5 Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 4: Lesson 7: 220-223
MAFS.2.MD.2.6 Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 4: Lesson 6: 216-219
<b>Cluster 3: Word with time and money.</b>	
MAFS.2.MD.3.7 Tell and write time from analog and digital clocks to the nearest five minutes.	Module 6: Lesson 1: 308-311 Module 6: Lesson 2: 312-315

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<b>Mathematics Florida Standards</b>	<b>VMath, Level C</b>
<b>Grade 2</b>	
<i>Cognitive Complexity:</i> Level 1: Recall	
<p>MAFS.2.MD.3.8 Solve one- and two-step word problems involving dollar bills (singles, fives, tens, twenties, and hundreds) or coins (quarters, dimes, nickels and pennies) using \$ and ¢ symbols appropriately. Word problems may involve addition, subtraction, and equal groups situations. <i>Example: The cash register shows that the total for your purchase is 59¢. You gave the cashier three quarters. How much change should you receive from the cashier?</i></p> <p>a. Identify the value of coins and paper currency.  b. Compute the value of any combination of coins within one dollar.  c. Compute the value of any combinations of dollars (e.g., If you have three ten-dollar bills, one five-dollar bill, and two one-dollar bills, how much money do you have?)  d. Relate the value of pennies, nickels, dimes, and quarters to other coins and to the dollar (e.g., There are five nickels in one quarter. There are two nickels in one dime. There are two and a half dimes in one quarter. There are twenty nickels in one dollar).</p>	<p>Module 5: Lesson 1: 250-253  Module 5: Lesson 2: 254-257  Module 5: Lesson 3: 258-261</p>
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
<b>Cluster 4: Representing and interpreting data</b>	
<p>MAFS.2.MD.4.10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems<sup>1</sup> using information presented in a bar graph. .</p>	<p>Module 4: Lesson 10: 232-235  Module 6: Lesson 3: 316-319  Module 6: Lesson 4: 320-323  Module 6: Lesson 5: 324-327  Module 6: Lesson 6: 328-331  Module 6: Lesson 7: 332-335  Module 6: Lesson 8: 336-339  Module 6: Lesson 9: 340-343</p>
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
<p>MAFS.2.MD.4.9 Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units. .</p>	<p>Module 4: Lesson 8: 224-227  Module 4: Lesson 9: 228-231  Module 6: Lesson 10: 344-347</p>
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
<b>Domain: Geometry</b>	
<b>Cluster 1: Reason with shapes and their attributes.</b>	
<p>MAFS.2.G.1.1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.<sup>1</sup> Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.</p>	<p>Module 5: Lesson 4: 262-265  Module 5: Lesson 5: 266-269  Module 5: Lesson 6: 270-273  Module 5: Lesson 7: 274-277  Module 5: Lesson 10: 286-289</p>
<i>Cognitive Complexity:</i> Level 1: Recall	
<p>MAFS.2.G.1.2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.</p>	<p>Module 3: Lesson 8: 172-175  Module 5: Lesson 8: 278-281  Module 5: Lesson 9: 282-285  Module 7: Lesson 9: 396-399  Module 7: Lesson 10: 400-403</p>
<i>Cognitive Complexity:</i> Level 1: Recall	

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<b>Grade 2</b>	
<p>MAFS.2.G.1.3 Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.</p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	<p>Module 3: Lesson 8: 172-175</p> <p>Module 5: Lesson 8: 278-281</p> <p>Module 5: Lesson 9: 282-285</p> <p>Module 7: Lesson 1: 364-367</p> <p>Module 7: Lesson 2: 368-371</p> <p>Module 7: Lesson 3: 372-375</p> <p>Module 7: Lesson 4: 376-379</p> <p>Module 7: Lesson 5: 380-383</p> <p>Module 7: Lesson 6: 384-387</p> <p>Module 7: Lesson 9: 396-399</p> <p>Module 7: Lesson 10: 400-403</p>

Mathematics Florida Standards	Vmath, Level D
<b>Grade 3</b>	
<b>Domain: Operations and Algebraic Thinking</b>	
<b>Cluster 1: Represent and solve problems involving multiplication and division</b>	
<p>MAFS.3.OA.1.1 Interpret products of whole numbers, e.g., interpret <math>5 \times 7</math> as the total number of objects in 5 groups of 7 objects each. <i>For example, describe a context in which a total number of objects can be expressed as <math>5 \times 7</math>.</i></p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	<p>Module 4: Lesson 1: 207  Module 4: Lesson 2: 208-211  Module 4: Lesson 5: 220-223  Module 4: Lesson 6: 224-227  Module 4: Lesson 7: 228-231  Module 4: Lesson 8: 232-235  Module 4: Lesson 9: 236-239  Module 4: Lesson 10: 240-241</p>
<p>MAFS.3.OA.1.2 Interpret whole-number quotients of whole numbers, e.g., interpret <math>56 \div 8</math> as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. <i>For example, describe a context in which a number of shares or a number of groups can be expressed as <math>56 \div 8</math>.</i></p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	<p>Module 5: Lesson 1: 271  Module 5: Lesson 2: 272-275  Module 5: Lesson 3: 276-279  Module 5: Lesson 4: 280-283  Module 5: Lesson 5: 284-287  Module 5: Lesson 7: 292-295</p>
<p>MAFS.3.OA.1.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 4: Lesson 1: 207  Module 4: Lesson 2: 208-211  Module 4: Lesson 5: 220-223  Module 4: Lesson 6: 224-227  Module 4: Lesson 7: 228-231  Module 4: Lesson 8: 232-235  Module 4: Lesson 9: 236-239  Module 4: Lesson 10: 240-241  Module 5: Lesson 1: 271  Module 5: Lesson 2: 272-275  Module 5: Lesson 3: 276-279  Module 5: Lesson 4: 280-283  Module 5: Lesson 5: 284-287  Module 5: Lesson 7: 292-295  Module 5: Lesson 9: 300-303  Module 5: Lesson 10: 304-307</p>
<p>MAFS.3.OA.1.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. <i>For example, determine the unknown number that makes the equation true in each of the equations <math>8 \times ? = 48</math>, <math>5 = \_ \div 3</math>, <math>6 \times 6 = ?</math></i></p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	<p>Module 4: Lesson 11: 242-246  Module 5: Lesson 8: 296-299  Module 5: Lesson 9: 300-303  Module 5: Lesson 10: 304-307</p>
<b>Cluster 2: Understand properties of multiplication and the relationship between multiplication and division.</b>	
<p>MAFS.3.OA.2.5 Apply properties of operations as strategies to multiply and divide.<sup>2</sup> <i>Examples: If <math>6 \times 4 = 24</math> is known, then <math>4 \times 6 = 24</math> is also known. (Commutative property of multiplication.) <math>3 \times 5 \times 2</math> can be found by <math>3 \times 5 = 15</math>, then <math>15 \times 2 = 30</math>, or by <math>5 \times 2 = 10</math>, then <math>3 \times 10 = 30</math>. (Associative property of multiplication.) Knowing that <math>8 \times 5 = 40</math> and <math>8 \times 2 = 16</math>, one can find <math>8 \times 7</math> as <math>8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56</math>. (Distributive property.)</i></p>	<p>Module 4: Lesson 11: 242-246  Module 4: Lesson 12: 247</p>

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<b>Mathematics Florida Standards</b>	<b>Vmath, Level D</b>
<b>Grade 3</b>	
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
MAFS.3.OA.2.6 Understand division as an unknown-factor problem. <i>For example, find <math>32 \div 8</math> by finding the number that makes 32 when multiplied by 8.</i>	Module 5: Lesson 1: 271 Module 5: Lesson 2: 272-275 Module 5: Lesson 3: 276-279 Module 5: Lesson 4: 280-283 Module 5: Lesson 5: 284-287 Module 5: Lesson 7: 292-295
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
<b>Cluster 3: Multiply and divide within 100. (Major Cluster)</b>	
MAFS.3.OA.3.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$ , one knows $40 \div 5 = 8$ ) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.	Module 4: Lesson 1: 207 Module 4: Lesson 2: 208-211 Module 4: Lesson 5: 220-223 Module 4: Lesson 6: 224-227 Module 4: Lesson 7: 228-231 Module 4: Lesson 8: 232-235 Module 4: Lesson 9: 236-239 Module 4: Lesson 10: 240-241 Module 4: Lesson 11: 242-246 Module 4: Lesson 14: 252-255 Module 4: Lesson 15: 256-259 Module 5: Lesson 1: 271 Module 5: Lesson 2: 272-275 Module 5: Lesson 3: 276-279 Module 5: Lesson 4: 280-283 Module 5: Lesson 5: 284-287 Module 5: Lesson 7: 292-295 Module 5: Lesson 9: 300-303 Module 5: Lesson 10: 304-307
<i>Cognitive Complexity:</i> Level 1: Recall	
<b>Cluster 4: Solve problems involving the four operations, and identify and explain patterns in arithmetic.</b>	
MAFS.3.OA.4.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	Module 3: Lesson 15: 192-195
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
MAFS.3.OA.4.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. <i>For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.</i>	Module 4: Lesson 2: 208-211 Module 4: Lesson 3: 212-215 Module 4: Lesson 4: 216-219 Module 5: Lesson 6: 288-291
<i>Cognitive Complexity:</i> Level 3: Strategic Thinking & Complex Reasoning	
<b>Domain: Number and Operations in Base Ten</b>	
<b>Cluster 1: Use place value understanding and properties of operations to perform multi-digit arithmetic. (Additional Cluster)</b>	
MAFS.3.NBT.1.1 Use place value understanding to round whole numbers to the nearest 10 or 100.	Module 2: Lesson 1: 94-97 Module 2: Lesson 2: 98-101 Module 2: Lesson 3: 102-105



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<b>Grade 3</b>	
<p><i>Cognitive Complexity:</i> Level 1: Recall</p>	<p>Module 2: Lesson 4: 106-109  Module 2: Lesson 5: 110-113  Module 2: Lesson 6: 114-117  Module 2: Lesson 7: 118-121  Module 2: Lesson 8: 122-123  Module 2: Lesson 9: 124-128  Module 2: Lesson 10: 129-132  Module 3: Lesson 7: 164-167  Module 3: Lesson 14: 188-191</p>
<p>MAFS.3.NBT.1.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.</p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	<p>Module 3: Lesson 1: 142-145  Module 3: Lesson 2: 146-147  Module 3: Lesson 3: 148-151  Module 3: Lesson 4: 152-155  Module 3: Lesson 5: 156-159  Module 3: Lesson 6: 160-163  Module 3: Lesson 8: 168-169  Module 3: Lesson 9: 170-173  Module 3: Lesson 10: 174-175  Module 3: Lesson 11: 176-179  Module 3: Lesson 12: 180-183  Module 3: Lesson 13: 184-187</p>
<p>MAFS.3.NBT.1.3 Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., <math>9 \times 80</math>, <math>5 \times 60</math>) using strategies based on place value and properties of operations.</p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	<p>Module 4: Lesson 13: 248-251</p>
<b>Domain: Number &amp; Operations—Fractions</b>	
<b>Cluster 1: Develop understanding of fractions as numbers. (Major Cluster)</b>	
<p>MAFS.3.NF.1.1 Understand a fraction <math>1/b</math> as the quantity formed by 1 part when <math>a</math> whole is partitioned into <math>b</math> equal parts; understand a fraction <math>a/b</math> as the quantity formed by <math>a</math> parts of size <math>1/b</math>.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 6: Lesson 1: 320-323  Module 6: Lesson 2: 324-325  Module 6: Lesson 3: 326-329  Module 6: Lesson 4: 330-333</p>
<p>MAFS.3.NF.1.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram.</p> <p>a. Represent a fraction <math>1/b</math> on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into <math>b</math> equal parts. Recognize that each part has size <math>1/b</math> and that the endpoint of the part based at 0 locates the number <math>1/b</math> on the number line.</p> <p>b. Represent a fraction <math>a/b</math> on a number line diagram by marking off <math>a</math> lengths <math>1/b</math> from 0. Recognize that the resulting interval has size <math>a/b</math> and that its endpoint locates the number <math>a/b</math> on the number line.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 6: Lesson 9: 348-351  Module 6: Lesson 10: 352-355  Module 6: Lesson 8: 344-347</p>
<p>MAFS.3.NF.1.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.</p> <p>a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.</p>	<p>Module 6: Lesson 1: 320-323  Module 6: Lesson 5: 334-335  Module 6: Lesson 6: 336-339  Module 6: Lesson 7: 340-343</p>

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<b>Grade 3</b>	
<p>b. Recognize and generate simple equivalent fractions, e.g., <math>\frac{1}{2} = \frac{2}{4}</math>, <math>\frac{4}{6} = \frac{2}{3}</math>. Explain why the fractions are equivalent, e.g., by using a visual fraction model.</p> <p>c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. <i>Examples: Express 3 in the form <math>3 = \frac{3}{1}</math>; recognize that <math>\frac{6}{1} = 6</math>; locate <math>\frac{4}{4}</math> and 1 at the same point of a number line diagram.</i></p> <p>d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify the conclusions, e.g., by using a visual fraction model.</p> <p><i>Cognitive Complexity:</i> Level 3: Strategic Thinking &amp; Complex Reasoning</p>	Module 6: Lesson 8: 344-347
<b>Domain: Measurement and Data</b>	
<b>Cluster 1: Solve problems involving measurement and estimation. (Major Cluster)</b>	
<p>MAFS.3.MD.1.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	Module 7: Lesson 5: 384-387 Module 7: Lesson 6: 388-391
<p>MAFS.3.MD.1.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	Module 7: Lesson 7: 392-395 Module 7: Lesson 8: 396-399
<b>Cluster 2: Represent and interpret data. (Supporting Cluster)</b>	
<p>MAFS.3.MD.2.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. <i>For example, draw a bar graph in which each square in the bar graph might represent 5 pets.</i></p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	Module 7: Lesson 1: 368-371 Module 7: Lesson 2: 372-375 Module 7: Lesson 3: 376-379 Module 7: Lesson 4: 380-383
<p>MAFS.3.MD.2.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	Module 7: Lesson 9: 400-403 Module 7: Lesson 10: 404-407
<b>Cluster 3: Geometric measurement: understand concepts of area and relate area to multiplication and to addition. (Major Cluster)</b>	
<p>MAFS.3.MD.3.5 Recognize area as an attribute of plane figures and understand concepts of area measurement.</p> <p>a. A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area.</p> <p>b. A plane figure which can be covered without gaps or overlaps by <math>n</math> unit squares is said to have an area of <math>n</math> square units.</p>	Module 7: Lesson 15: 422-425

**Voyager Vmath, Levels C-I, correlated to the Mathematics Florida Standards (MAFS), Grades 2-8**

Mathematics Florida Standards	Vmath, Level D
<b>Grade 3</b>	
<i>Cognitive Complexity:</i> Level 1: Recall	
MAFS.3.MD.3.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).	Module 7: Lesson 15: 422-425
<i>Cognitive Complexity:</i> Level 1: Recall	
MAFS.3.MD.3.7 Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths $a$ and $b + c$ is the sum of $a \times b$ and $a \times c$ . Use area models to represent the distributive property in mathematical reasoning. d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.	Module 7: Lesson 15: 422-425
<i>Cognitive Complexity:</i> Level 3: Strategic Thinking & Complex Reasoning	
<b>Cluster 4: Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures. (Additional Cluster)</b>	
MAFS.3.MD.4.8 Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	Module 7: Lesson 14: 418-421
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
<b>Domain: Geometry</b>	
<b>Cluster 1: Reason with shapes and their attributes. (Supporting Cluster)</b>	
MAFS.3.G.1.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	Module 7: Lesson 11: 408-409 Module 7: Lesson 12: 410-413 Module 7: Lesson 13: 414-417
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
MAFS.3.G.1.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. <i>For example, partition a shape into 4 parts with equal area, and describe the area of each part as <math>\frac{1}{4}</math> of the area of the shape.</i>	Module 6: Lesson 1: 320-323
<i>Cognitive Complexity:</i> Level 1: Recall	

Mathematics Florida Standards	Vmath, Level E
<b>Grade 4</b>	
<b>Domain: Operations and Algebraic Thinking</b>	
<b>Cluster 1: Use the four operations with whole numbers to solve problems.</b> (Major Cluster)	
<p>MAFS.4.OA.1.1 Interpret a multiplication equation as a comparison, e.g., interpret <math>35 = 5 \times 7</math> as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.</p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	<p>Module 4: Lesson 2: 198-201 Module 4: Lesson 3: 202-205</p>
<p>MAFS.4.OA.1.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 3: Lesson 1: 128-131 Module 3: Lesson 2: 132-135 Module 3: Lesson 3: 136-139 Module 3: Lesson 15: 178-181 Module 4: Lesson 2: 198-201 Module 4: Lesson 3: 202-205</p>
<p>MAFS.4.OA.1.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 2: Lesson 8: 104-107 Module 3: Lesson 14: 174-177 Module 5: Lesson 14: 280-283</p>
MAFS.4.OA.1.a Determine whether an equation is true or false by using comparative relational thinking. <i>For example, without adding 60 and 24, determine whether the equation <math>60 + 24 = 57 + 27</math> is true or false.</i>	
MAFS.4.OA.1.b Determine the unknown whole number in an equation relating four whole numbers using comparative relational thinking. <i>For example, solve <math>76 + 9 = n + 5</math> for <math>n</math> by arguing that nine is four more than five, so the unknown number must be four greater than 76.</i>	
<b>Cluster 2: Gain familiarity with factors and multiples.</b> (Supporting Cluster)	
<p>MAFS.4.OA.2.4 Investigate factors and multiples.</p> <p>a. Find all factor pairs for a whole number in the range 1–100.</p> <p>b. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number.</p> <p>d. Determine whether a given whole number in the range 1–100 is prime or composite.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 4: Lesson 1: 194-197 Module 4: Lesson 2: 198-201 Module 4: Lesson 1: 194-197 Module 4: Lesson 4: 206-209</p>
<b>Generate and analyze patterns.</b>	
MAFS.4.OA.3.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. <i>For example, given the rule “Add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to</i>	<p>Module 7: Lesson 10: 384-387 Module 7: Lesson 11: 388-391</p>

**Voyager Vmath, Levels C-I, correlated to the Mathematics Florida Standards (MAFS), Grades 2-8**

Mathematics Florida Standards	Vmath, Level E
<b>Grade 4</b>	
<i>alternate in this way.</i>	
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
<b>Domain: Number and Operations in Base Ten</b>	
<b>Cluster 1: Generalize place value understanding for multi-digit whole numbers. (Major Cluster)</b>	
MAFS.4.NBT.1.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. <i>For example, recognize that <math>700 \div 70 = 10</math> by applying concepts of place value and division.</i>	Module 1: Lesson 1: 38-41
<i>Cognitive Complexity:</i> Level 1: Recall	
MAFS.4.NBT.1.2 Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$ , $=$ , and $<$ symbols to record the results of comparisons.	Module 1: Lesson 1: 38-41 Module 1: Lesson 2: 42-45 Module 1: Lesson 5: 54-55
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
MAFS.4.NBT.1.3 Use place value understanding to round multi-digit whole numbers to any place.	Module 1: Lesson 9: 66-67 Module 2: Lesson 9: 108-111 Module 2: Lesson 10: 112-115
<i>Cognitive Complexity:</i> Level 1: Recall	
<b>Cluster 2: Use place value understanding and properties of operations to perform multi-digit arithmetic. (Major Cluster)</b>	
MAFS.4.NBT.2.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.	Module 2: Lesson 1: 82-83 Module 2: Lesson 2: 84-87 Module 2: Lesson 3: 88-91 Module 2: Lesson 4: 92-93 Module 2: Lesson 5: 94-95 Module 2: Lesson 6: 96-99 Module 2: Lesson 7: 100-103 Module 2: Lesson 9: 108-111 Module 2: Lesson 10: 112-115 Module 5: Lesson 4: 244-247 Module 5: Lesson 5: 248-251 Module 5: Lesson 6: 252-255 Module 5: Lesson 7: 256-259 Module 5: Lesson 8: 260-263
<i>Cognitive Complexity:</i> Level 1: Recall	
MAFS.4.NBT.2.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	Module 3: Lesson 1: 128-131 Module 3: Lesson 2: 132-135 Module 3: Lesson 3: 136-139 Module 3: Lesson 4: 140-143 Module 3: Lesson 5: 144-147 Module 3: Lesson 6: 148-151 Module 3: Lesson 7: 152-155 Module 3: Lesson 14: 174-177
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
MAFS.4.NBT.2.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the	Module 3: Lesson 8: 156-159 Module 3: Lesson 9: 160-163 Module 3: Lesson 10: 164-165

Mathematics Florida Standards	Vmath, Level E
<b>Grade 4</b>	
relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 3: Lesson 11: 166-167 Module 3: Lesson 12: 168-169 Module 3: Lesson 13: 170-173
<b>Domain: Number and Operations—Fractions</b>	
<b>Cluster 1: Extend understanding of fraction equivalence and ordering.</b> (Major Cluster)	
MAFS.4.NF.1.1 Explain why a fraction $a/b$ is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.  <i>Cognitive Complexity:</i> Level 3: Strategic Thinking & Complex Reasoning	Module 4: Lesson 3: 202-205 Module 4: Lesson 4: 206-209 Module 4: Lesson 6: 214-215 Module 4: Lesson 7: 216-219 Module 4: Lesson 8: 220-221
MAFS.4.NF.1.2 Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$ . Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$ , $=$ , or $<$ , and justify the conclusions, e.g., by using a visual fraction model.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 4: Lesson 9: 222-223 Module 4: Lesson 10: 224-227
<b>Cluster 2: Build Fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.</b> (Major Cluster)	
MAFS.4.NF.2.3 Understand a fraction $a/b$ with $a > 1$ as a sum of fractions $1/b$ . a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. <i>Examples:</i> $3/8 = 1/8 + 1/8 + 1/8$ ; $3/8 = 1/8 + 2/8$ ; $2 \frac{1}{8} = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$ . c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 4: Lesson 5: 210-213 Module 5: Lesson 9: 264-265 Module 5: Lesson 10: 266-269 Module 5: Lesson 11: 270-271 Module 5: Lesson 12: 272-275
MAFS.4.NF.2.4 Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. a. Understand a fraction $a/b$ as a multiple of $1/b$ . <i>For example, use a visual fraction model to represent <math>5/4</math> as the product <math>5 \times (1/4)</math>, recording the conclusion by the equation <math>5/4 = 5 \times (1/4)</math>.</i> b. Understand a multiple of $a/b$ as a multiple of $1/b$ , and use this understanding to multiply a fraction by a whole number. <i>For example, use a visual fraction model to express <math>3 \times (2/5)</math> as <math>6 \times (1/5)</math>,</i>	Module 5: Lesson 15: 284-287

Mathematics Florida Standards	Vmath, Level E
<b>Grade 4</b>	
<p><i>recognizing this product as <math>\frac{6}{5}</math>. (In general, <math>n \times (\frac{a}{b}) = (\frac{n \times a}{b})</math>.)</i></p> <p>c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. <i>For example, if each person at a party will eat <math>\frac{3}{8}</math> of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?</i></p> <p><i>Cognitive Complexity: Level 2: Basic Application of Skills and Concepts</i></p>	
<b>Cluster 3: Understand decimal notation for fractions, and compare decimal fractions. (Major Cluster)</b>	
<p>MAFS.4.NF.3.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.<sup>2</sup> <i>For example, express <math>\frac{3}{10}</math> as <math>\frac{30}{100}</math>, and add <math>\frac{3}{10} + \frac{4}{100} = \frac{34}{100}</math>.</i></p> <p><i>Cognitive Complexity: Level 1: Recall</i></p>	<p>Module 5: Lesson 1: 232-235 Module 5: Lesson 4: 244-247 Module 5: Lesson 5: 248-251</p>
<p>MAFS.4.NF.3.6 Use decimal notation for fractions with denominators 10 or 100. <i>For example, rewrite 0.62 as <math>\frac{62}{100}</math>; describe a length as 0.62 meters; locate 0.62 on a number line diagram.</i></p> <p><i>Cognitive Complexity: Level 1: Recall</i></p>	<p>Module 5: Lesson 1: 232-235 Module 5: Lesson 13: 276-279</p>
<p>MAFS.4.NF.3.7 Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify the conclusions, e.g., by using a visual model.</p> <p><i>Cognitive Complexity: Level 2: Basic Application of Skills and Concepts</i></p>	<p>Module 5: Lesson 2: 236-239 Module 5: Lesson 3: 240-243</p>
<b>Domain: Measurement and Data</b>	
<b>Cluster 1: Solve problems involving measurement and conversion of measurements. (Supporting Cluster)</b>	
<p>MAFS.4.MD.1.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. <i>For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...</i></p> <p><i>Cognitive Complexity: Level 1: Recall</i></p>	<p>Module 7: Lesson 1: 350-353 Module 7: Lesson 4: 362-365 Module 7: Lesson 5: 366-369 Module 7: Lesson 6: 370-373</p>
<p>MAFS.4.MD.1.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.</p> <p><i>Cognitive Complexity: Level 2: Basic Application of Skills and Concepts</i></p>	<p>Module 7: Lesson 1: 350-353 Module 7: Lesson 2: 354-357 Module 7: Lesson 3: 358-361 Module 7: Lesson 4: 362-365 Module 7: Lesson 5: 366-369 Module 7: Lesson 6: 370-373 Module 7: Lesson 7: 374-377</p>
<p>MAFS.4.MD.1.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems. <i>For example, find the width of a rectangular room given the area of the flooring and the</i></p>	<p>Module 7: Lesson 8: 378-379 Module 7: Lesson 9: 380-383 Module 7: Lesson 15: 402-405</p>

Mathematics Florida Standards	Vmath, Level E
<b>Grade 4</b>	
length, by viewing the area formula as a multiplication equation with an unknown factor.	
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
<b>Cluster 2: Represent and interpret data.</b> (Supporting Cluster)	
MAFS.4.MD.2.4 Make a line plot to display a data set of measurements in fractions of a unit ( $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{1}{8}$ ). Solve problems involving addition and subtraction of fractions by using information presented in line plots. <i>For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.</i>	Module 7: Lesson 12: 392-395 Module 7: Lesson 13: 396-400 Module 7: Lesson 14: 401
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
<i>Geometric measurement: understand concepts of angle and measure angles.</i>	
MAFS.4.MD.3.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a “one-degree angle,” and can be used to measure angles. b. An angle that turns through $n$ one-degree angles is said to have an angle measure of $n$ degrees.	Module 6: Lesson PL2: 296-300 Module 6: Lesson 1: 301 Module 6: Lesson 7: 322-325
<i>Cognitive Complexity:</i> Level 1: Recall	
MAFS.4.MD.3.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	Module 6: Lesson 1: 301
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
MAFS.4.MD.3.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.	Module 6: Lesson 1: 301 Module 6: Lesson 6: 318-321 Module 6: Lesson 8: 326-329
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
<b>Domain: Geometry</b>	
<b>Cluster 1: Draw and identify lines and angles, and classify shapes by properties of their lines and angles.</b> (Additional Cluster)	
MAFS.4.G.1.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	Module 6: Lesson 7: 322-325
<i>Cognitive Complexity:</i> Level 1: Recall	
MAFS.4.G.1.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.	Module 6: Lesson 2: 302-305 Module 6: Lesson 3: 306-309 Module 6: Lesson 4: 310-313 Module 6: Lesson 5: 314-317



**Voyager Vmath, Levels C-I, correlated to the Mathematics Florida Standards (MAFS), Grades 2-8**

<b>Mathematics Florida Standards</b>	<b>Vmath, Level E</b>
<b>Grade 4</b>	
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
MAFS.4.G.1.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	Module 6: Lesson 9: 330-331 Module 6: Lesson 10: 332-335
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	

Mathematics Florida Standards	Vmath, Level F
<b>Grade 5</b>	
<b>Domain: Operations and Algebraic Thinking</b>	
<b>Cluster 1: Write and interpret numerical expressions.</b> (Additional Cluster)	
MAFS.5.OA.1.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.  <i>Cognitive Complexity:</i> Level 1: Recall	Module 5: Lesson 2: 262-265 Module 5: Lesson 3: 266-268 Module 5: Lesson 6: 274-275
MAFS.5.OA.1.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. <i>For example, express the calculation “add 8 and 7, then multiply by 2” as <math>2 \times (8 + 7)</math>. Recognize that <math>3 \times (18932 + 921)</math> is three times as large as <math>18932 + 921</math>, without having to calculate the indicated sum or product.</i>  <i>Cognitive Complexity:</i> Level 1: Recall	Module 5: Lesson 2: 262-265 Module 5: Lesson 3: 266-268 Module 5: Lesson 4: 269 Module 5: Lesson 6: 274-275 Module 5: Lesson 7: 276-279 Module 5: Lesson 8: 280-283 Module 5: Lesson 9: 284-287
<b>Cluster 2: Analyze patterns and relationships.</b> (Additional Cluster)	
MAFS.5.OA.2.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. <i>For example, given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.</i>  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 5: Lesson 5: 270-273 Module 5: Lesson 10: 288-291
<b>Domain: Number and Operations in Base Ten</b>	
<b>Cluster 1: Understand the place value system.</b> (Major Cluster)	
MAFS.5.NBT.1.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.  <i>Cognitive Complexity:</i> Level 1: Recall	Module 2: Lesson 3: 92-95 Module 2: Lesson 4: 96-99 Module 2: Lesson 5: 100-103
MAFS.5.NBT.1.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 2: Lesson 3: 92-95 Module 2: Lesson 4: 96-99 Module 2: Lesson 5: 100-103 Module 3: Lesson 6: 146-149
MAFS.5.NBT.1.3 Read, write, and compare decimals to thousandths. a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$ . b. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$ , $=$ , and $<$ symbols to record the results of comparisons.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 2: Lesson 1: 86-89 Module 2: Lesson 3: 92-95 Module 2: Lesson 4: 96-99 Module 2: Lesson 6: 104-105 Module 2: Lesson 7: 106-107 Module 2: Lesson 8: 108-111

**Voyager Vmath, Levels C-I, correlated to the Mathematics Florida Standards (MAFS), Grades 2-8**

<b>Mathematics Florida Standards</b>	<b>Vmath, Level F</b>
<b>Grade 5</b>	
<p>MAFS.5.NBT.1.4 Use place value understanding to round decimals to any place.</p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	<p>Module 2: Lesson 2: 90-91  Module 2: Lesson 9: 112-116  Module 2: Lesson 10: 117-120  Module 3: Lesson 13: 170-174  Module 3: Lesson 14: 175  Module 3: Lesson 15: 176-179</p>
<b>Cluster 2: Perform operations with multi-digit whole numbers and with decimals to hundredths. (Major Cluster)</b>	
<p>MAFS.5.NBT.2.5 Fluently multiply multi-digit whole numbers using the standard algorithm.</p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	<p>Module 3: Lesson 7: 150-153</p>
<p>MAFS.5.NBT.2.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 3: Lesson 10: 160-163</p>
<p>MAFS.5.NBT.2.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 3: Lesson 1: 128-131  Module 3: Lesson 2: 132-135  Module 3: Lesson 3: 136-137  Module 3: Lesson 4: 138-141  Module 3: Lesson 5: 142-145  Module 3: Lesson 8: 154-155  Module 3: Lesson 9: 156-159  Module 3: Lesson 11: 164-165  Module 3: Lesson 12: 166-169</p>
<b>Domain: Number and Operations—Fractions</b>	
<b>Cluster 1: Use equivalent fractions as a strategy to add and subtract fractions. (Major Cluster)</b>	
<p>MAFS.5.NF.1.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. <i>For example, <math>\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}</math>. (In general, <math>\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}</math>.)</i></p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 3: Lesson 1: 128-131  Module 3: Lesson 2: 132-135  Module 3: Lesson 3: 136-137  Module 3: Lesson 4: 138-141  Module 3: Lesson 5: 142-145  Module 3: Lesson 6: 146-149  Module 3: Lesson 7: 150-153  Module 3: Lesson 8: 154-155  Module 3: Lesson 9: 156-159  Module 4: Lesson 1: 194-197  Module 4: Lesson 2: 198-201  Module 4: Lesson 3: 202-205  Module 4: Lesson 4: 206-209  Module 4: Lesson 5: 210-211  Module 4: Lesson 6: 212-215  Module 4: Lesson 7: 216-219  Module 4: Lesson 8: 220-223</p>

**Voyager Vmath, Levels C-I, correlated to the Mathematics Florida Standards (MAFS), Grades 2-8**

Mathematics Florida Standards	Vmath, Level F
<b>Grade 5</b>	
	Module 4: Lesson 9: 224-228
<p>MAFS.5.NF.1.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. <i>For example, recognize an incorrect result <math>2/5 + 1/2 = 3/7</math>, by observing that <math>3/7 &lt; 1/2</math>.</i></p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 3: Lesson 1: 128-131  Module 3: Lesson 2: 132-135  Module 3: Lesson 6: 146-149  Module 3: Lesson 7: 150-153  Module 3: Lesson 8: 154-155  Module 3: Lesson 9: 156-159  Module 4: Lesson 1: 194-197  Module 4: Lesson 2: 198-201  Module 4: Lesson 6: 212-215  Module 4: Lesson 7: 216-219  Module 4: Lesson 8: 220-223  Module 4: Lesson 9: 224-228</p>
<b>Cluster 2: Apply and extend previous understandings of multiplication and division. (Major Cluster)</b>	
<p>MAFS.5.NF.2.3 Interpret a fraction as division of the numerator by the denominator (<math>a/b = a \div b</math>). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. <i>For example, interpret <math>3/4</math> as the result of dividing 3 by 4, noting that <math>3/4</math> multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size <math>3/4</math>. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?</i></p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	Module 4: Lesson 12: 235
<p>MAFS.5.NF.2.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.</p> <p>a. Interpret the product <math>(a/b) \times q</math> as a parts of a partition of <math>q</math> into <math>b</math> equal parts; equivalently, as the result of a sequence of operations <math>a \times q \div b</math>. <i>For example, use a visual fraction model to show <math>(2/3) \times 4 = 8/3</math>, and create a story context for this equation. Do the same with <math>(2/3) \times (4/5) = 8/15</math>. (In general, <math>(a/b) \times (c/d) = ac/bd</math>.)</i></p> <p>b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 4: Lesson 10: 229  Module 4: Lesson 11: 230-234  Module 7: Lesson 8: 372-375</p>
<p>MAFS.5.NF.2.5 Interpret multiplication as scaling (resizing), by:</p> <p>a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.</p> <p>b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given</p>	<p>Module 4: Lesson 10: 229  Module 4: Lesson 11: 230-234</p>

**Voyager Vmath, Levels C-I, correlated to the Mathematics Florida Standards (MAFS), Grades 2-8**

<b>Mathematics Florida Standards</b>	<b>Vmath, Level F</b>
<b>Grade 5</b>	
number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying $a/b$ by 1.  <i>Cognitive Complexity:</i> Level 3: Strategic Thinking & Complex Reasoning	
MAFS.5.NF.2.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 4: Lesson 15: 245-248
MAFS.5.NF.2.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. <i>For example, create a story context for <math>(1/3) \div 4</math>, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that <math>(1/3) \div 4 = 1/12</math> because <math>(1/12) \times 4 = 1/3</math>.</i> b. Interpret division of a whole number by a unit fraction, and compute such quotients. <i>For example, create a story context for <math>4 \div (1/5)</math>, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that <math>4 \div (1/5) = 20</math> because <math>20 \times (1/5) = 4</math>.</i>  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 3: Lesson 13: 170-174 Module 3: Lesson 14: 175 Module 4: Lesson 13: 236-239 Module 4: Lesson 14: 240-244
<b>Domain: Measurement and Data</b>	
<b>Cluster 1: Convert like measurement units within a given measurement system. (Supporting Cluster)</b>	
MAFS.5.MD.1.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 7: Lesson 3: 356-359 Module 7: Lesson 4: 360-363
<b>Cluster 2: Represent and interpret data. (Supporting Cluster)</b>	
MAFS.5.MD.2.2 Make a line plot to display a data set of measurements in fractions of a unit ( $1/2, 1/4, 1/8$ ). Use operations on fractions for this grade to solve problems involving information presented in line plots. <i>For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.</i>  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 6: Lesson 1: 300-303 Module 6: Lesson 2: 304-307 Module 6: Lesson 3: 308-311 Module 6: Lesson 4: 312-315 Module 6: Lesson 5: 316-319 Module 6: Lesson 6: 320-323 Module 6: Lesson 7: 324-327 Module 6: Lesson 8: 328-332 Module 6: Lesson 9: 333 Module 6: Lesson 10: 334-337
<b>Cluster 3: Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition. (Major Cluster)</b>	
MAFS.5.MD.3.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement. a. A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.	Module 7: Lesson 5: 364-365

**Voyager Vmath, Levels C-I, correlated to the Mathematics Florida Standards (MAFS), Grades 2-8**

<b>Mathematics Florida Standards</b>	<b>Vmath, Level F</b>
<b>Grade 5</b>	
<p>b. A solid figure which can be packed without gaps or overlaps using <math>n</math> unit cubes is said to have a volume of <math>n</math> cubic units.</p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	
<p>MAFS.5.MD.3.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.</p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	Module 7: Lesson 5: 364-365
<p>MAFS.5.MD.3.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.</p> <p>a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.</p> <p>b. Apply the formulas <math>V = l \times w \times h</math> and <math>V = b \times h</math> for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.</p> <p>c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 7: Lesson 5: 364-365</p> <p>Module 7: Lesson 6: 366-370</p> <p>Module 7: Lesson 7: 371</p> <p>Module 7: Lesson 8: 372-375</p>
<b>Domain: Geometry</b>	
<b>Cluster 1: Graph points on the coordinate plane to solve real-world and mathematical problems. (Additional Cluster)</b>	
<p>MAFS.5.G.1.1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).</p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	Module 7: Lesson 9: 376-379
<p>MAFS.5.G.1.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 7: Lesson 9: 376-379</p> <p>Module 7: Lesson 10: 380-383</p>
<b>Cluster 2: Classify two-dimensional figures into categories based on their properties. (Additional Cluster)</b>	
<p>MAFS.5.G.2.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.</p>	<p>Module 7: Lesson 1: 348-351</p> <p>Module 7: Lesson 2: 352-355</p> <p>Module 7: Lesson 5: 364-365</p> <p>Module 7: Lesson 6: 366-370</p> <p>Module 7: Lesson 7: 371</p>

**Voyager Vmath, Levels C-I, correlated to the Mathematics Florida Standards (MAFS), Grades 2-8**

Mathematics Florida Standards	Vmath, Level F
<b>Grade 5</b>	
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	
MAFS.5.G.2.4 Classify two-dimensional figures in a hierarchy based on properties.	Module 7: Lesson 1: 348-351 Module 7: Lesson 2: 352-355 Module 7: Lesson 5: 364-365 Module 7: Lesson 6: 366-370 Module 7: Lesson 7: 371
<i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	

Mathematics Florida Standards	Vmath, Level G
<b>Grade 6</b>	
<b>Domain: Ratios &amp; Proportional Relationships</b>	
<b>Cluster 1: Understand ratio concepts and use ratio reasoning to solve problems. (Major Cluster)</b>	
<p>MAFS.6.RP.1.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. <i>For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."</i></p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 5: Lesson 1: 250-251 Module 5: Lesson 2: 252-255</p>
<p>MAFS.6.RP.1.2 Understand the concept of a unit rate <math>a/b</math> associated with a ratio <math>a:b</math> with <math>b \neq 0</math>, and use rate language in the context of a ratio relationship. <i>For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is <math>3/4</math> cup of flour for each cup of sugar." "We paid \$75 for 15 hamburgers, which is a rate of \$5 per hamburger."</i></p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 5: Lesson 2: 252-255 Module 5: Lesson 3: 256-259</p>
<p>MAFS.6.RP.1.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.</p> <p>a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.</p> <p>b. Solve unit rate problems including those involving unit pricing and constant speed. <i>For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?</i></p> <p>c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means <math>30/100</math> times the quantity); solve problems involving finding the whole, given a part and the percent.</p> <p>d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.</p> <p>e. Understand the concept of Pi as the ratio of the circumference of a circle to its diameter.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 5: Lesson 2: 252-255 Module 5: Lesson 3: 256-259 Module 5: Lesson 4: 260-263 Module 5: Lesson 6: 268-271 Module 5: Lesson 7: 272-275 Module 5: Lesson 8: 276-279 Module 5: Lesson 9: 280-284 Module 7: Lesson 10: 328-331</p>
<b>Domain: The Number System</b>	
<b>Cluster 1: Apply and extend previous understandings of multiplication and division to divide fractions by fractions. (Major Cluster)</b>	
<p>MAFS.6.NS.1.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. <i>For example, create a story context for <math>(2/3) \div (3/4)</math> and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that <math>(2/3) \div (3/4) = 8/9</math> because <math>3/4</math> of <math>8/9</math> is <math>2/3</math>. (In general, <math>(a/b) \div (c/d) = ad/bc</math>.) How much chocolate will each person get if 3 people share <math>1/2</math> lb of chocolate equally? How many <math>3/4</math>-cup servings are in <math>2/3</math> of a cup of</i></p>	<p>Module 3: Lesson 6: 160-163 Module 3: Lesson 7: 164-167 Module 3: Lesson 8: 168-171 Module 3: Lesson 9: 172-175 Module 3: Lesson 10: 176-179</p>



**Voyager Vmath, Levels C-I, correlated to the Mathematics Florida Standards (MAFS), Grades 2-8**

Mathematics Florida Standards	Vmath, Level G
<b>Grade 6</b>	
<p><i>yogurt? How wide is a rectangular strip of land with length <math>\frac{3}{4}</math> mi and area <math>\frac{1}{2}</math> square mi?</i></p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	
<b>Cluster 2: Compute fluently with multi-digit numbers and find common factors and multiples. (Additional Cluster)</b>	
<p>MAFS.6.NS.2.2 Fluently divide multi-digit numbers using the standard algorithm.</p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	Module 2: Lesson 3: 96-99
<p>MAFS.6.NS.2.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.</p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	<p>Module 2: Lesson 1: 88-91</p> <p>Module 2: Lesson 2: 92-95</p> <p>Module 2: Lesson 3: 96-99</p>
<p>MAFS.6.NS.2.4 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. <i>For example, express <math>36 + 8</math> as <math>4(9 + 2)</math>.</i></p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 2: Lesson 4: 100-104</p> <p>Module 2: Lesson 5: 105-107</p> <p>Module 2: Lesson 6: 108-111</p>
<b>Cluster 3: Apply and extend previous understandings of numbers to the system of rational numbers. (Major Cluster)</b>	
<p>MAFS.6.NS.3.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 2: Lesson 10: 124-127</p> <p>Module 3: Lesson 1: 140-143</p> <p>Module 3: Lesson 2: 144-147</p> <p>Module 3: Lesson 3: 148-151</p> <p>Module 3: Lesson 4: 152-155</p> <p>Module 3: Lesson 5: 156-159</p>
<p>MAFS.6.NS.2.6 Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.</p> <p>a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., <math>-(-3) = 3</math>, and that 0 is its own opposite.</p> <p>b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.</p> <p>c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 2: Lesson 8: 116-119</p> <p>Module 2: Lesson 10: 124-127</p> <p>Module 7: Lesson 10: 328-331</p>
<p>MAFS.6.NS.3.7 Understand ordering and absolute value of rational numbers.</p> <p>a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. <i>For example, interpret <math>-3 &gt; -7</math> as a statement that <math>-3</math> is located to the right of <math>-7</math></i></p>	Module 2: Lesson 9: 120-123

Mathematics Florida Standards	Vmath, Level G
<b>Grade 6</b>	
<p>on a number line oriented from left to right.</p> <p>b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. <i>For example, write <math>-3^{\circ}\text{C} &gt; -7^{\circ}\text{C}</math> to express the fact that <math>-3^{\circ}\text{C}</math> is warmer than <math>-7^{\circ}\text{C}</math>.</i></p> <p>c. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. <i>For example, for an account balance of <math>-30</math> dollars, write <math> -30  = 30</math> to describe the size of the debt in dollars.</i></p> <p>d. Distinguish comparisons of absolute value from statements about order. <i>For example, recognize that an account balance less than <math>-30</math> dollars represents a debt greater than 30 dollars.</i></p> <p><i>Cognitive Complexity: Level 2: Basic Application of Skills and Concepts</i></p>	
<p>MAFS.6.NS.3.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.</p> <p><i>Cognitive Complexity: Level 2: Basic Application of Skills and Concepts</i></p>	Module 7: Lesson 10: 328-331
<b>Domain: Expressions &amp; Equations</b>	
<b>Cluster 1: Apply and extend previous understandings of arithmetic to algebraic expressions. (Major Cluster)</b>	
<p>MARS.6.EE.1.1 Write and evaluate numerical expressions involving whole-number exponents.</p> <p><i>Cognitive Complexity: Level 1: Recall</i></p>	Module 4: Lesson 1: 188-189
<p>MAFS.6.EE.1.2 Write, read, and evaluate expressions in which letters stand for numbers.</p> <p>a. Write expressions that record operations with numbers and with letters standing for numbers. <i>For example, express the calculation "Subtract <math>y</math> from 5" as <math>5 - y</math>.</i></p> <p>b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. <i>For example, describe the expression <math>2(8 + 7)</math> as a product of two factors; view <math>(8 + 7)</math> as both a single entity and a sum of two terms.</i></p> <p>c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). <i>For example, use the formulas <math>V = s^3</math> and <math>A = 6s^2</math> to find the volume and surface area of a cube with sides of length <math>s = 1/2</math>.</i></p> <p><i>Cognitive Complexity: Level 2: Basic Application of Skills and Concepts</i></p>	Module 4: Lesson 2: 190-193 Module 4: Lesson 4: 198
<p>MAFS.6.EE.1.3 Apply the properties of operations to generate equivalent expressions. <i>For example, apply the distributive property to the expression <math>3(2 + x)</math> to produce the equivalent expression <math>6 + 3x</math>; apply the distributive property to the expression <math>24x + 18y</math> to produce the equivalent expression <math>6(4x + 3y)</math>; apply properties of operations to <math>y + y + y</math> to produce the equivalent expression <math>3y</math>.</i></p> <p><i>Cognitive Complexity: Level 1: Recall</i></p>	Module 4: Lesson 4: 198 Module 4: Lesson 5: 199

**Voyager Vmath, Levels C-I, correlated to the Mathematics Florida Standards (MAFS), Grades 2-8**

<b>Mathematics Florida Standards</b>	<b>Vmath, Level G</b>
<b>Grade 6</b>	
<p>MAFS.6.EE.1.4 Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). <i>For example, the expressions <math>y + y + y</math> and <math>3y</math> are equivalent because they name the same number regardless of which number <math>y</math> stands for.</i></p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	Module 4: Lesson 3: 194-197
<b>Cluster 2: Reason about and solve one-variable equations and inequalities. (Major Cluster)</b>	
<p>MAFS.6.EE.2.5 Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 4: Lesson 5: 199</p> <p>Module 4: Lesson 11: 218-221</p>
<p>MAFS.6.EE.2.6 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.</p> <p><i>Cognitive Complexity:</i> Level 3: Strategic Thinking &amp; Complex Reasoning</p>	<p>Module 4: Lesson 2: 190-193</p> <p>Module 4: Lesson 3: 194-197</p> <p>Module 4: Lesson 6: 200-201</p> <p>Module 4: Lesson 10: 214-217</p>
<p>MAFS.6.EE.2.7 Solve real-world and mathematical problems by writing and solving equations of the form <math>x + p = q</math> and <math>px = q</math> for cases in which <math>p</math>, <math>q</math> and <math>x</math> are all nonnegative rational numbers.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 4: Lesson 7: 202-205</p> <p>Module 4: Lesson 8: 206-209</p> <p>Module 4: Lesson 10: 214-217</p> <p>Module 4: Lesson 13: 226-229</p> <p>Module 4: Lesson 14: 230-233</p> <p>Module 4: Lesson 15: 234-237</p>
<p>MAFS.6.EE.2.8 Write an inequality of the form <math>x &gt; c</math> or <math>x &lt; c</math> to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form <math>x &gt; c</math> or <math>x &lt; c</math> have infinitely many solutions; represent solutions of such inequalities on number line diagrams.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 4: Lesson 11: 218-221</p> <p>Module 4: Lesson 12: 222-225</p>
<b>Cluster 3: Represent and analyze quantitative relationships between dependent and independent variables. (Major Cluster)</b>	
<p>MAFS.6.EE.2.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation <math>d = 65t</math> to represent the relationship between distance and time.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	Module 4: Lesson 9: 210-213
<b>Domain: Geometry</b>	
<b>Cluster 1: Solve real-world and mathematical problems involving area, surface area, and volume. (Supporting</b>	

**Voyager Vmath, Levels C-I, correlated to the Mathematics Florida Standards (MAFS), Grades 2-8**

<b>Mathematics Florida Standards</b>	<b>Vmath, Level G</b>
<b>Grade 6</b>	
<b>Cluster)</b>	
<p>MAFS.6.G.1.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 6: Lesson 1: 296-299  Module 6: Lesson 2: 300-303  Module 6: Lesson 3: 304-307  Module 6: Lesson 5: 312-315  Module 6: Lesson 6: 316-317  Module 6: Lesson 7: 318-321</p>
<p>MAFS.6.G.1.2 Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas <math>V = l w h</math> and <math>V = b h</math> to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 6: Lesson 8: 322-323</p>
<p>MAFS.6.G.1.3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 6: Lesson 1: 296-299  Module 6: Lesson 2: 300-303  Module 6: Lesson 3: 304-307  Module 6: Lesson 4: 308-311  Module 6: Lesson 5: 312-315  Module 6: Lesson 8: 322-323  Module 6: Lesson 9: 324-327  Module 7: Lesson 10: 328-331</p>
<p>MAFS.6.G.1.4 Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 6: Lesson 10: 328-331</p>
<b>Domain: Statistics &amp; Probability</b>	
<b>Cluster 1: Develop understanding of statistical variability. (Additional Cluster)</b>	
<p>MAFS.6.SP.1.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. <i>For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.</i></p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	<p>Module 7: Lesson 4: 308-311  Module 7: Lesson 9: 324-327</p>
<p>MAFS.6.SP.1.2 Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.</p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	<p>Module 7: Lesson 3: 3-4-307</p>
<p>MAFS.6.SP.1.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.</p>	<p>Module 7: Lesson 6: 316-317  Module 7: Lesson 7: 318-321  Module 7: Lesson 10: 328-331</p>

**Voyager Vmath, Levels C-I, correlated to the Mathematics Florida Standards (MAFS), Grades 2-8**

<b>Mathematics Florida Standards</b>	<b>Vmath, Level G</b>
<b>Grade 6</b>	
<i>Cognitive Complexity:</i> Level 1: Recall	
<b>Cluster 2: Summarize and describe distributions. (Additional Cluster)</b>	
<p>MAFS.6.SP.2.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 7: Lesson 4: 308-311  Module 7: Lesson 5: 312-315  Module 7: Lesson 8: 322-323  Module 7: Lesson 9: 324-327</p>
<p>MAFS.6.SP.2.5 Summarize numerical data sets in relation to their context, such as by:</p> <ul style="list-style-type: none"> <li>a. Reporting the number of observations.</li> <li>b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.</li> <li>c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.</li> <li>d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.</li> </ul> <p><i>Cognitive Complexity:</i> Level 3: Strategic Thinking &amp; Complex Reasoning</p>	<p>Module 7: Lesson 1: 296-299  Module 7: Lesson 2: 300-303  Module 7: Lesson 6: 316-317  Module 7: Lesson 7: 318-321  Module 7: Lesson 8: 322-323</p>

Mathematics Florida Standards	Vmath, Level H
<b>Grade 7</b>	
<b>Domain: Ratios &amp; Proportional Relationships</b>	
<b>Cluster 1: Analyze proportional relationships and use them to solve real-world and mathematical problems. (Major Cluster)</b>	
<p>MAFS.7.RP.1.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. <i>For example, if a person walks <math>\frac{1}{2}</math> mile in each <math>\frac{1}{4}</math> hour, compute the unit rate as the complex fraction <math>\frac{1/2}{1/4}</math> miles per hour, equivalently 2 miles per hour.</i></p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 5: Lesson 3: 228  Module 5: Lesson 5: 230  Module 5: Lesson 6: 231  Module 5: Lesson 9: 240-243</p>
<p>MAFS.7.RP.1.2 Recognize and represent proportional relationships between quantities.</p> <p>a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.</p> <p>b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.</p> <p>c. Represent proportional relationships by equations. <i>For example, if total cost <math>t</math> is proportional to the number <math>n</math> of items purchased at a constant price <math>p</math>, the relationship between the total cost and the number of items can be expressed as <math>t = pn</math>.</i></p> <p>d. Explain what a point <math>(x, y)</math> on the graph of a proportional relationship means in terms of the situation, with special attention to the points <math>(0, 0)</math> and <math>(1, r)</math> where <math>r</math> is the unit rate.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 5: Lesson 3: 228  Module 5: Lesson 4: 229  Module 5: Lesson 5: 230  Module 5: Lesson 6: 231  Module 5: Lesson 9: 240-243  Module 5: Lesson 10: 244-247</p>
<p>MAFS.7.RP.1.3 Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 5: Lesson 7: 232-235  Module 5: Lesson 8: 236-239</p>
<b>Domain: The Number System</b>	
<b>Cluster 1: Apply and extend previous understandings of operations with fractions. (Major Cluster)</b>	
<p>MAFS.7.NS.1.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.</p> <p>a. Describe situations in which opposite quantities combine to make 0. <i>For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.</i></p> <p>b. Understand <math>p + q</math> as the number located a distance <math> q </math> from <math>p</math>, in the positive or negative direction depending on whether <math>q</math> is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.</p> <p>c. Understand subtraction of rational numbers as adding the additive inverse, <math>p - q = p + (-q)</math>. Show that the distance between two rational</p>	<p>Module 2: Lesson 1: 84-87  Module 2: Lesson 3: 92-95  Module 2: Lesson 4: 96-99  Module 2: Lesson 5: 100  Module 2: Lesson 6: 101-104  Module 2: Lesson 7: 105  Module 2: Lesson 8: 106-109  Module 2: Lesson 9: 110-113  Module 2: Lesson 10: 114-117</p>

Mathematics Florida Standards	Vmath, Level H
<b>Grade 7</b>	
<p>numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.</p> <p>d. Apply properties of operations as strategies to add and subtract rational numbers.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	
<p>MAFS.7.NS.1.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.</p> <p>a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as <math>(-1)(-1) = 1</math> and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.</p> <p>b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If <math>p</math> and <math>q</math> are integers, then <math>-(p/q) = (-p)/q = p/(-q)</math>. Interpret quotients of rational numbers by describing real-world contexts.</p> <p>c. Apply properties of operations as strategies to multiply and divide rational numbers.</p> <p>d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 3: Lesson 1: 128-131</p> <p>Module 3: Lesson 2: 132-135</p> <p>Module 3: Lesson 3: 136-139</p> <p>Module 3: Lesson 4: 140-143</p> <p>Module 3: Lesson 5: 144-147</p> <p>Module 3: Lesson 6: 148</p> <p>Module 3: Lesson 7: 149</p> <p>Module 3: Lesson 8: 150-153</p> <p>Module 3: Lesson 9: 154-157</p> <p>Module 3: Lesson 10: 158-161</p>
<p>MAFS.7.NS.1.3 Solve real-world and mathematical problems involving the four operations with rational numbers.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 2: Lesson 4: 96-99</p> <p>Module 2: Lesson 5: 100</p> <p>Module 2: Lesson 6: 101-104</p> <p>Module 2: Lesson 9: 110-113</p> <p>Module 2: Lesson 10: 114-117</p> <p>Module 3: Lesson 9: 154-157</p>
<b>Domain: Expressions &amp; Equations</b>	
<b>Cluster 1: Use properties of operations to generate equivalent expressions. (Major Cluster)</b>	
<p>MAFS.7.EE.1.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.</p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	<p>Module 4: Lesson 1: 174-177</p> <p>Module 4: Lesson 2: 178-181</p>
<p>MAFS.7.EE.1.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. <i>For example, <math>a + 0.05a = 1.05a</math> means that "increase by 5%" is the same as "multiply by 1.05."</i></p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 4: Lesson 2: 178-181</p>
<b>Cluster 2: Solve real-life and mathematical problems using numerical and algebraic expressions and equations. (Major Cluster)</b>	
<p>MAFS.7.EE.2.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically.</p>	<p>Module 4: Lesson 3: 182-183</p> <p>Module 4: Lesson 4: 184-187</p> <p>Module 4: Lesson 5: 188-191</p>

Mathematics Florida Standards	Vmath, Level H
<b>Grade 7</b>	
<p>Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. <i>For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional <math>\frac{1}{10}</math> of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar <math>9\frac{3}{4}</math> inches long in the center of a door that is <math>27\frac{1}{2}</math> inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.</i></p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 4: Lesson 6: 192-193 Module 4: Lesson 7: 194-197</p>
<p>MAFS.7.EE.2.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.</p> <p>a. Solve word problems leading to equations of the form <math>px + q = r</math> and <math>p(x + q) = r</math>, where <math>p</math>, <math>q</math>, and <math>r</math> are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. <i>For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?</i></p> <p>b. Solve word problems leading to inequalities of the form <math>px + q &gt; r</math> or <math>px + q &lt; r</math>, where <math>p</math>, <math>q</math>, and <math>r</math> are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. <i>For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions.</i></p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 4: Lesson 3: 182-183 Module 4: Lesson 4: 184-187 Module 4: Lesson 5: 188-191 Module 4: Lesson 6: 192-193 Module 4: Lesson 7: 194-197 Module 4: Lesson 8: 198-201 Module 4: Lesson 9: 202-206 Module 4: Lesson 10: 207-210</p>
<b>Domain: Geometry</b>	
<b>Cluster 1: Draw construct, and describe geometrical figures and describe the relationships between them. (Additional Cluster)</b>	
<p>MAFS.7.G.1.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 5: Lesson 1: 220-223 Module 5: Lesson 2: 224-227</p>
<p>MAFS.7.G.1.2 Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 5: Lesson 1: 220-223 Module 5: Lesson 2: 224-227</p>
<p>MAFS.7.G.1.3 Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	
<b>Cluster 2: Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. (Additional Cluster)</b>	
MAFS.7.G.2.4 Know the formulas for the area and circumference of a	Module 6: Lesson 1: 260-263



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<b>Mathematics Florida Standards</b>	<b>Vmath, Level H</b>
<b>Grade 7</b>	
circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 6: Lesson 2: 264-267 Module 6: Lesson 3: 268-271
MAFS.7.G.2.5 Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 6: Lesson 13: 307 Module 6: Lesson 14: 308
MAFS.7.G.2.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 6: Lesson 4: 272-275 Module 6: Lesson 5: 276-280 Module 6: Lesson 6: 281 Module 6: Lesson 7: 282-285 Module 6: Lesson 8: 286-289 Module 6: Lesson 9: 290-293 Module 6: Lesson 10: 294-297 Module 6: Lesson 11: 298-301 Module 6: Lesson 12: 302-326
<b>Domain: Statistics &amp; Probability</b>	
<b>Cluster 1: Use random sampling to draw inferences about a population.</b> (Supporting Cluster)	
MAFS.7.SP.1.1 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 7: Lesson 10: 356-359
MAFS.7.SP.1.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. <i>For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.</i>  <i>Cognitive Complexity:</i> Level 3: Strategic Thinking & Complex Reasoning	Module 7: Lesson 10: 356-359
<b>Cluster 2: Draw informal comparative inferences about two populations.</b> (Additional Cluster)	
MAFS.7.SP.2.3 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. <i>For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.</i>  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 7: Lesson 1: 322-325 Module 7: Lesson 2: 326-329 Module 7: Lesson 3: 330-333

**Voyager Vmath, Levels C-I, correlated to the Mathematics Florida Standards (MAFS), Grades 2-8**

<b>Mathematics Florida Standards</b>	<b>Vmath, Level H</b>
<b>Grade 7</b>	
<p>MAFS.7.SP.2.4 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. <i>For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.</i></p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 7: Lesson 1: 322-325 Module 7: Lesson 2: 326-329 Module 7: Lesson 3: 330-333</p>
<b>Cluster 3: Investigate chance processes and develop, use, and evaluate probability models. (Supporting Cluster)</b>	
<p>MAFS.7.SP.3.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.</p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	<p>Module 7: Lesson 5: 338-341 Module 7: Lesson 7: 344-347 Module 7: Lesson 9: 352-355</p>
<p>MAFS.7.SP.3.6 Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. <i>For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.</i></p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 7: Lesson 6: 342-343</p>
<p>MAFS.7.SP.3.7 Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.</p> <p>a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. <i>For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.</i></p> <p>b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. <i>For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?</i></p> <p><i>Cognitive Complexity:</i> Level 3: Strategic Thinking &amp; Complex Reasoning</p>	<p>Module 7: Lesson 8: 348-351</p>
<p>MAFS.7.SP.3.8 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.</p> <p>a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.</p> <p>b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., “rolling double sixes”), identify the outcomes in the sample space which compose the event.</p> <p>c. Design and use a simulation to generate frequencies for compound</p>	<p>Module 7: Lesson 4: 334-337 Module 7: Lesson 5: 338-341 Module 7: Lesson 7: 344-347 Module 7: Lesson 8: 348-351</p>

Voyager *Vmath*, Levels C-I, correlated to the Mathematics Florida Standards (MAFS), Grades 2-8

Mathematics Florida Standards	<i>Vmath</i> , Level H
<b>Grade 7</b>	
<p>events. For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?</p> <p><i>Cognitive Complexity:</i> Level 3: Strategic Thinking &amp; Complex Reasoning</p>	

Mathematics Florida Standards	Vmath, Level I
<b>Grade 8</b>	
<b>Domain: The Number System</b>	
<b>Cluster 1: Know that there are numbers that are not rational, and approximate them by rational numbers.</b> (Supporting Cluster)	
MAFS.8.NS.1.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.  <i>Cognitive Complexity:</i> Level 1: Recall	Module 2: Lesson 7: 120-123 Module 2: Lesson 8: 124-127
MAFS.8.NS.1.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., $\pi^2$ ). For example, by truncating the decimal expansion of $\sqrt{2}$ , show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 2: Lesson 6: 119
<b>Domain: Expressions &amp; Equations</b>	
<b>Cluster 1: Work with radicals and integer exponents.</b> (Major Cluster)	
MAFS.8.EE.1.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$ .  <i>Cognitive Complexity:</i> Level 1: Recall	Module 2: Lesson 1: 98-101 Module 2: Lesson 2: 102-105 Module 2: Lesson 3: 106-109 Module 2: Lesson 4: 110-113 Module 2: Lesson 5: 114-118 Module 2: Lesson 7: 120-123
MAFS.8.EE.1.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$ , where $p$ is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.  <i>Cognitive Complexity:</i> Level 1: Recall	Module 2: Lesson 8: 124-127 Module 2: Lesson 9: 128-130 Module 7: Lesson 9: 372-375 Module 7: Lesson 10: 376-379
MAFS.8.EE.1.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 times $10^8$ and the population of the world as 7 times $10^9$ , and determine that the world population is more than 20 times larger.  <i>Cognitive Complexity:</i> Level 1: Recall	Module 2: Lesson 1: 98-101 Module 2: Lesson 3: 106-109
MAFS.8.EE.1.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 2: Lesson 5: 114-118
<b>Cluster 2: Understand the connections between proportional relationships, lines, and linear equations.</b> (Major	

Mathematics Florida Standards	Vmath, Level I
<b>Grade 8</b>	
<b>Cluster)</b>	
<p>MAFS.8.EE.2.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 4: Lesson 7: 202-205  Module 4: Lesson 8: 206-209  Module 4: Lesson 9: 210-213  Module 4: Lesson 10: 214-217  Module 4: Lesson 11: 218-221  Module 4: Lesson 12: 222-223  Module 4: Lesson 14: 226-229  Module 5: Lesson 7: 268</p>
<p>MAFS.8.EE.2.6 Use similar triangles to explain why the slope <math>m</math> is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation <math>y = mx</math> for a line through the origin and the equation <math>y = mx + b</math> for a line intercepting the vertical axis at <math>b</math>.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 4: Lesson 13: 224-225  Module 5: Lesson 3: 254-255</p>
<b>Cluster 3: Analyze and solve linear equations and pairs of simultaneous linear equations. (Major Cluster)</b>	
<p>MAFS.8.EE.3.7 Solve linear equations in one variable.</p> <p>a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form <math>x = a</math>, <math>a = a</math>, or <math>a = b</math> results (where <math>a</math> and <math>b</math> are different numbers).</p> <p>b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 2: Lesson 2: 102-105  Module 3: Lesson 1: 144-147  Module 3: Lesson 2: 148-151  Module 3: Lesson 3: 152-155  Module 3: Lesson 4: 156-159  Module 3: Lesson 5: 160-161  Module 3: Lesson 6: 162-165  Module 3: Lesson 7: 166-169  Module 3: Lesson 8: 170-171  Module 3: Lesson 9: 172-173  Module 4: Lesson 10: 214-217  Module 4: Lesson 11: 218-221</p>
<p>MAFS.8.EE.3.8 Analyze and solve pairs of simultaneous linear equations.</p> <p>a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.</p> <p>b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. <i>For example, <math>3x + 2y = 5</math> and <math>3x + 2y = 6</math> have no solution because <math>3x + 2y</math> cannot simultaneously be 5 and 6.</i></p> <p>c. Solve real-world and mathematical problems leading to two linear equations in two variables. <i>For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.</i></p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 3: Lesson 4: 156-159  Module 5: Lesson 8: 269  Module 5: Lesson 9: 270-274  Module 5: Lesson 10: 275-278</p>
<b>Domain: Functions</b>	
<b>Cluster 1: Define, evaluate, and compare functions. (Major Cluster)</b>	
<p>MAFS.8.F.1.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of</p>	<p>Module 4: Lesson 3: 198  Module 4: Lesson 4: 199</p>

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ordered pairs consisting of an input and the corresponding output.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 4: Lesson 5: 200 Module 4: Lesson 6: 201 Module 4: Lesson 7: 202-205 Module 4: Lesson 8: 206-209 Module 4: Lesson 9: 210-213
MAFS.8.F.1.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). <i>For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.</i>  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 4: Lesson 7: 202-205 Module 4: Lesson 8: 206-209 Module 4: Lesson 9: 210-213 Module 5: Lesson 1: 248-249
MAFS.8.F.1.3 Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. <i>For example, the function <math>A = s^2</math> giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.</i>  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 4: Lesson 7: 202-205 Module 4: Lesson 8: 206-209 Module 4: Lesson 9: 210-213 Module 4: Lesson 10: 214-217 Module 4: Lesson 11: 218-221 Module 4: Lesson 15: 230-233 Module 5: Lesson 1: 248-249 Module 5: Lesson 2: 250-253 Module 5: Lesson 3: 254-255
<b>Cluster 2: Use functions to model relationships between quantities. (Major Cluster)</b>	
MAFS.8.F.2.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.  <i>Cognitive Complexity:</i> Level 3: Strategic Thinking & Complex Reasoning	Module 4: Lesson 7: 202-205 Module 4: Lesson 8: 206-209 Module 4: Lesson 9: 210-213 Module 4: Lesson 10: 214-217 Module 4: Lesson 11: 218-221 Module 4: Lesson 12: 222-223 Module 4: Lesson 14: 226-229
MAFS.8.F.2.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 4: Lesson 2: 194-197 Module 4: Lesson 7: 202-205 Module 4: Lesson 8: 206-209 Module 4: Lesson 9: 210-213 Module 4: Lesson 10: 214-217 Module 4: Lesson 11: 218-221 Module 4: Lesson 12: 222-223 Module 4: Lesson 14: 226-229 Module 4: Lesson 15: 230-233 Module 5: Lesson 2: 250-253
<b>Domain: Geometry</b>	
<b>Cluster 1: Understand congruence and similarity using physical models, transparencies, or geometry software. (Major Cluster)</b>	
MAFS.8.G.1.1 Verify experimentally the properties of rotations,	Module 6: Lesson 7: 312-315

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<b>Mathematics Florida Standards</b>	<b>Vmath, Level I</b>
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<p>reflections, and translations:</p> <p>a. Lines are taken to lines, and line segments to line segments of the same length.</p> <p>b. Angles are taken to angles of the same measure.</p> <p>c. Parallel lines are taken to parallel lines.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 6: Lesson 8: 316-319</p> <p>Module 6: Lesson 9: 320-323</p>
<p>MAFS.8.G.1.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 6: Lesson 5: 304-307</p>
<p>MAFS.8.G.1.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 6: Lesson 8: 316-319</p> <p>Module 6: Lesson 9: 320-323</p>
<p>MAFS.8.G.1.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 6: Lesson 1: 288-291</p> <p>Module 6: Lesson 2: 292-295</p> <p>Module 6: Lesson 10: 324-327</p>
<p>MAFS.8.G.1.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. <i>For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.</i></p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 6: Lesson 3: 296-299</p> <p>Module 6: Lesson 4: 230-303</p> <p>Module 6: Lesson 6: 308-311</p>
<b>Cluster 2: Understand and apply the Pythagorean Theorem. (Major Cluster)</b>	
<p>MAFS.8.G.2.6 Explain a proof of the Pythagorean Theorem and its converse.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 7: Lesson 8: 370-372</p> <p>Module 7: Lesson 9: 372-375</p> <p>Module 7: Lesson 10: 376-379</p>
<p>MAFS.8.G.2.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.</p> <p><i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts</p>	<p>Module 2: Lesson 10: 131-134</p> <p>Module 7: Lesson 9: 372-375</p> <p>Module 7: Lesson 10: 376-379</p>
<p>MAFS.8.G.2.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.</p> <p><i>Cognitive Complexity:</i> Level 1: Recall</p>	<p>supports standard:</p> <p>Module 7: Lesson 9: 372-375</p>
<b>Cluster 3: Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres. (Additional Cluster)</b>	
<p>MAFS.8.G.3.9 Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical</p>	<p>Module 7: Lesson 1: 342-345</p> <p>Module 7: Lesson 2: 346-349</p>

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<b>Mathematics Florida Standards</b>	<b>Vmath, Level I</b>
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problems.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 7: Lesson 3: 350-353 Module 7: Lesson 4: 354-357 Module 7: Lesson 5: 358-362 Module 7: Lesson 6: 362-365 Module 7: Lesson 7: 366-369
<b>Domain: Statistics &amp; Probability</b>	
<b>Cluster 1: Investigate patterns of association in bivariate data.</b> (Supporting Cluster)	
MAFS.8.SP.1.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 4: Lesson 1: 190-193 Module 4: Lesson 2: 194-197 Module 5: Lesson 4: 256-259
MAFS.8.SP.1.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 4: Lesson 2: 194-197
MAFS.8.SP.1.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. <i>For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.</i>  <i>Cognitive Complexity:</i> Level 2: Basic Application of Skills and Concepts	Module 5: Lesson 5: 260-263 Module 5: Lesson 6: 264-267
MAFS.8.SP.1.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. <i>For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?</i>  <i>Cognitive Complexity:</i> Level 3: Strategic Thinking & Complex Reasoning	Module 5: Lesson 7: 268