

Mathematics Virginia Essentialized Standards of Learning (VESOL) Crosswalk

How to Use this Document

This document contains two different mathematics Virginia Essentialized Standards of Learning crosswalks for each applicable grade level. The first crosswalk lists correlations to retired Virginia Aligned Standards of Learning (ASOL) and ASOL sample activities so that special educators can see linkages between the VESOL and previously taught ASOL content and activities. The second crosswalk lists VESOL correlations to associated Virginia Standards of Learning (SOL) and Applied Studies Curriculum map competencies so that special educators can readily access curriculum frameworks and resources for instruction.

The Table of Contents (TOC) includes all sections of the document and is organized by crosswalk and grade levels. **Educators can use the hyperlinks in the TOC to bypass unrelated sections and navigate directly to the sections of the document most relevant to them.**

The intent of the crosswalks is to provide a resource that will enhance collaboration between special and general educators and link teachers to multiple resources to support effective VESOL instruction.

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Mathematics Crosswalks

3rd Grade Math VESOL to ASOL Crosswalk

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-3 1	Match number names to numerals from 0 through 20.	3M-NSCE 1	The student will a) identify and write numerals 0 to 30; b) identify the place value of tens on a number line between the numbers 0 to 30.	Grade 3 Mathematics Sample Activities : Page 1 Grade 3 Mathematics Materials : pages 1-5	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-3 2	Identify the closest number above or below a given number from 0 through 20.	3M-NSCE 1	The student will b) identify the place value of tens on a number line between the numbers 0 to 30.	Grade 3 Mathematics Sample Activities : Page 1 Grade 3 Mathematics Materials : pages 1-5	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-3 3	Compare whole numbers from 0 through 20.	3M-NSCE 1	The student will a) identify and write numerals 0 to 30; b) identify the place value of tens on a number line between the numbers 0 to 30.	Grade 3 Mathematics Sample Activities : Page 1 Grade 3 Mathematics Materials : pages 1-5	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-3 4	Identify and match representations of one half for numbers 2 through 20.	3M-NSCE 3	The student will a) differentiate a fractional part from a whole	Grade 3 Mathematics Sample Activities : Page 2 Grade 3 Mathematics Materials : page 8	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-3 5	Add and subtract whole numbers from 0 through 20.	3M-NSCE 2	The student will a) solve addition and subtraction problems when result is unknown with number 0–30.	Grade 3 Mathematics Sample Activities : Page 1 Grade 3 Mathematics Materials : pages 6-7	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-3 6	Solve one-step word problems using addition and subtraction.	3M-NSCE 4	The student will a) add to solve single-step story problems from 0–30.	Grade 3 Mathematics Sample Activities : Page 2	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-3 7	Identify a product of two whole numbers where one number is 5 or less and the other number is 4 or less.	3M-NSCE 6	The student will a) use repeated addition and equal groups to find the total number of objects to find the sum.	Grade 3 Mathematics Sample Activities : Page 3 Grade 3 Mathematics Materials : pages 9-13	Mathematical Reasoning MATH-MR
Measurement and Geometry (MG)	M-3 8	Match and count coins through 25 cents.	3M-MG 1	The student will a) identify coins (penny, nickel, dime, quarter) and their values	Grade 3 Mathematics Sample Activities ; page 4	Mathematical Reasoning MATH-MR
Measurement and Geometry (MG)	M-3 9	Compare length using simple terms: same, shorter, longer.	3M-MG 2	The student will a) order by length using non-standard units; c) measure length of objects using standard tools, such as rulers, yardsticks, and meter sticks	Grade 3 Mathematics Sample Activities : Page 4	Measurement MATH-MEAS
Measurement and Geometry (MG)	M-3 10	Compare volume using simple terms: same, more, less, larger, smaller.	3M-MG 2	The student will b) identify standard units of measure for mass and volume;	Grade 3 Mathematics Sample Activities : Page 4	Measurement MATH-MEAS
Measurement and Geometry (MG)	M-3 11	Determine perimeter of equilateral triangles and squares.	3M-MG 1	The student will a) identify coins (penny, nickel, dime, quarter) and their values.	Grade 3 Mathematics Sample Activities : Page 4	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-3 12	Determine the area of squares and rectangles.	None	None	None	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-3 13	Tell time in whole hour increments using a digital clock including with context.	3M-MG 3	The student will a) tell time to the hour on a digital clock	Grade 3 Mathematics Sample Activities : Page 4	Time, Task and Resource Management MATH – TTRM
Measurement and Geometry (MG)	M-3 14	Use attributes of circles, triangles, and squares to identify shapes.	3M-MG 4	The student will a) recognize that shapes in different categories can share attributes.	Grade 3 Mathematics Sample Activities : Page 4	Geometric and Spatial Reasoning MATH-GSR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Measurement and Geometry (MG)	M-3 15	Identify figures that are the same size and shape.	3M-MG 4	The student will a) recognize that shapes in different categories can share attributes.	Grade 3 Mathematics Sample Activities : Page 4	
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-3 16	Compare categories represented in picture graphs using simple terms: same, more, less.	3M-PSPFA 1	The student will a) create picture graphs from collected measurement data; b) use picture or bar graph data to answer questions; c) insert data into a preconstructed bar graph template; d) interpret data from a variety of graphs to answer questions.	Grade 3 Mathematics Sample Activities : Page 6	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-3 17	Perform basic counting operations, including skip counting by 2s and 5s.	3M-PSPFA 2	The student will a) identify arithmetic patterns.	Grade 3 Mathematics Sample Activities : Page 6	Mathematical Reasoning MATH-MR

3rd Grade Math VESOL to SOL Crosswalk

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-3 1	Match number names and numerals from 0 through 20.	3.1a	The student will read, write, and identify the place and value of each digit in a six-digit whole number, with and without models.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-3 2	Identify the closest number above or below a given number from 0 through 20.	3.1b	The student will round whole numbers, 9,999 or less, to the nearest ten, hundred, and thousand.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-3 3	Compare whole numbers 0 through 20.	3.1c	The student will compare and order whole numbers, each 9,999 or less.	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-3 4	Identify and match representations of one half for numbers 2 through 20.	3.2a	The student will name and write fractions and mixed numbers represented by a model.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-3 5	Add and subtract whole numbers 0 through 20.	3.3a	The student will estimate and determine the sum or difference of two whole numbers.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-3 6	Solve one-step word problems using addition and subtraction.	3.3b	The student will create and solve single-step and multistep practical problems involving sums or differences of two whole numbers, each 9,999 or less.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-3 7	Identify a product of two whole numbers where one number is 5 or less and the other number is 4 or less.	3.4c	The student will demonstrate fluency with multiplication facts of 0, 1, 2, 5, and 10.	Mathematical Reasoning MATH-MR
Measurement and Geometry (MG)	M-3 8	Match and count coins through 25 cents.	3.6a	The student will determine the value of a collection of bills and coins whose total value is \$5.00 or less.	Measurement and Geometry (MG)
Measurement and Geometry (MG)	M-3 9	Compare length using simple terms: same, shorter, longer.	3.7a	The student will estimate and use U.S. Customary and metric units to measure length to the nearest 1/2-inch, inch, foot, yard, centimeter, and meter.	Measurement MATH-MEAS
Measurement and Geometry (MG)	M-3 10	Compare volume using simple terms: same, more, less, larger, smaller.	3.7b	The student will estimate and use U.S. Customary and metric units to measure liquid volume in cups, pints, quarts, gallons, and liters.	Measurement MATH-MEAS
Measurement and Geometry (MG)	M-3 11	Determine perimeter of equilateral triangles and squares.	3.8a	The student will estimate and measure the distance around a polygon in order to determine its perimeter using U.S. Customary and metric units.	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-3 12	Determine the area of squares and rectangles.	3.8b	The student will estimate and count the number of square units needed to cover a given surface in order to determine its area.	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-3 13	Tell time in whole hour increments using a digital clock including with context.	3.9a	The student will tell time to the nearest minute, using analog and digital clocks.	Time, Task and Resource Management MATH – TTRM

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Measurement and Geometry (MG)	M-3 14	Use attributes of circles, triangles, and squares to identify shapes.	3.12a	The student will define polygon.	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-3 15	Identify figures that are the same size and shape.	3.13	The student will identify and describe congruent and noncongruent figures.	Geometric and Spatial Reasoning MATH-GSR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-3 16	Compare categories represented in picture graphs using simple terms: same, more, less.	3.15a	The student will collect, organize, and represent data in pictographs or bar graphs.	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-3 17	Perform basic pattern counting operations, including skip counting by 2s and 5s.	3.16	The student will identify, describe, create, and extend patterns found in objects, pictures, numbers and tables.	Mathematical Reasoning MATH-MR

4th Grade Math VESOL to ASOL Crosswalk

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 1	Match number names to numerals from 0 through 40.	4M-NSCE 1	The student will a) compare numbers to each other based on place value groups by composing and decomposing to 50;	Grade 4 Mathematics Sample Activities : Page 1 Grade 4 Mathematics Materials : pages 1-7	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 2	Use place value to identify numbers that are multiples of 10 and understand the difference between ones and tens place.	4M-NSCE 1	The student will b) compare whole numbers (<, >, =);	Grade 4 Mathematics Sample Activities : Page 1 Grade 4 Mathematics Materials : pages 1-7	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 3	Identify the closest number above or below a given number from 0 through 40.	4M-NSCE 1	The student will c) round one-and two-digit whole numbers from 0–50 to the nearest 10.	Grade 4 Mathematics Sample Activities : Page 1 Grade 4 Mathematics Materials : pages 1-7	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 4	Compare whole numbers from 0 through 40 or the fractions $\frac{1}{2}$ and $\frac{1}{4}$.	4M-NSCE 2	The student will a) represent equivalent fractions (e.g., $\frac{2}{4} = \frac{1}{2}$).	Grade 4 Mathematics Sample Activities : Page 2 Grade 4 Mathematics Materials : page 8	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 5	Identify wholes, halves, or fourths.	4M-NSCE 2	The student will a) represent equivalent fractions (e.g., $\frac{2}{4} = \frac{1}{2}$).	Grade 4 Mathematics Sample Activities : Page 2 Grade 4 Mathematics Materials : page 8	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 6	Compare whole numbers from 0 through 40 or decimals from 0.0 through 5.5.	4M-NSCE 3	The student will a) round money to a nearest dollar.	Grade 4 Mathematics Sample Activities : Page 2 Grade 4 Mathematics Materials : page 9	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 7	Identify whole numbers 0 through 40 and match decimals 0.25 and 0.5 with $\frac{1}{4}$ and $\frac{1}{2}$.	None	None	None	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 8	Multiply whole numbers from 0 through 10; match an array to the correct whole number from 0 through 40.	4M-NSCE 5	The student will a) show one way to arrive at product.	Grade 4 Mathematics Sample Activities : Pages 5 & 6 Grade 4 Mathematics Materials : page 12	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 9	Add and subtract whole numbers from 0 through 40.	4M-NSCE 4	The student will b) add and subtract double-digit whole numbers.	Grade 4 Mathematics Sample Activities : Pages 3 & 4 Grade 4 Mathematics Materials : pages 10-11	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 10	Solve division problems using numbers from 1 through 10.	None	None	None	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 11	Solve one-step word problems using addition, subtraction, or multiplication.	4M-NSCE 4	The student will a) solve single-step word problems using addition or subtraction	Grade 4 Mathematics Sample Activities: Pages 3 & 4 Grade 4 Mathematics Materials: pages 10-11	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 12	Add and subtract wholes, halves, and fourths.	None	None	None	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 13	Solve one-step word problems using addition and subtraction of wholes, halves, and fourths.	None	None	None	Geometric and Spatial Reasoning MATH-GSR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 14	Use a variety of coins to count the value through 50 cents.	None	None	None	Mathematical Reasoning MATH-MR
Measurement and Geometry (MG)	M-4 15	Use unit squares to determine areas up to 20 square feet.	None	None	None	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-4 16	Measure length in inches and centimeters.	4M-MG 1	The student will a) identify smaller measurement units that divide a larger unit within a measurement system.	Grade 4 Mathematics Sample Activities: Page 6	Measurement MATH-MEAS
Measurement and Geometry (MG)	M-4 17	Measure weight in pounds.	4M-MG 1	The student will a) identify smaller measurement units that divide a larger unit within a measurement system.	Grade 4 Mathematics Sample Activities: Page 6	Measurement MATH-MEAS
Measurement and Geometry (MG)	M-4 18	Tell time in whole hour and half hour increments using a digital clock including with context.	4M-MG 2	The student will a) tell time to the half hour using a digital or to the hour using an analog clock	Grade 4 Mathematics Sample Activities: Page 6	Time, Task and Resource Management MATH – TTRM

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Measurement and Geometry (MG)	M-4 19	Identify points, line segments, and angles.	4M-MG 3	The student will a) distinguish between parallel and intersecting lines.	Grade 4 Mathematics Sample Activities : Page 6 Grade 4 Mathematics Materials : pages 13-14	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-4 20	Identify circles, triangles, squares, and rectangles.	None	None	None	Geometric and Spatial Reasoning MATH-GSR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-4 21	Interpret and compare data values represented in a picture or bar graph using simple terms: same, more, less.	5M-PSPFA 1	The student will a) compare two sets of data within a single data display such as a picture graph, line plot, or bar graph; b) represent and interpret data on a picture, line plot, or bar graph given a model and a graph to complete.	Grade 4 Mathematics Sample Activities : page 7	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-4 22	Recognize and perform skip counting by 2s, 3s, 5s, and 10s.	4M-PSPFA 1	The student will a) use repeating patterns to make predictions.	Grade 4 Mathematics Sample Activities : Page 7	Mathematical Reasoning MATH-MR

4th Grade Math VESOL to SOL Crosswalk

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 1	Match number names to numerals from 0 through 40.	4.1a	The student will read, write, and identify the place and value of each digit in a nine-digit whole number.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 2	Use place value to identify numbers that are multiples of 10 and understand the difference between ones and tens place.	4.1b	The student will compare and order whole numbers expressed through millions.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 3	Identify the closest number above or below a given number from 0 through 40.	4.1c	The student will round whole numbers expressed through millions to the nearest thousand, ten thousand, and hundred thousand.	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 4	Compare whole numbers from 0 through 40 or the fractions $\frac{1}{2}$ and $\frac{1}{4}$.	4.2a	The student will compare and order fractions and mixed numbers, with and without models.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 5	Identify wholes, halves, or fourths.	4.2c	The student will identify the division statement that represents a fraction, with models and in context.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 6	Compare whole numbers 0 through 40 and decimals 0.0 through 5.5.	4.3c	The student will compare and order decimals.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 7	Identify whole numbers (e.g., written as 1.0) and match decimals .5 and .25 with $\frac{1}{2}$ and $\frac{1}{4}$.ps 1-5.	4.3d	The student will, given a model, write the decimal and fraction equivalents.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 8	Multiply numbers from 0 through 10; match an array to the correct whole number from 0 through 40.	4.4a	The student will demonstrate fluency with multiplication facts through 12×12 , and the corresponding division facts.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 9	Add and subtract numbers from 0 through 40.	4.4b	The student will estimate and determine sums, differences, and products of whole numbers.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 10	Solve division problems using numbers from 1 through 10.	4.4c	The student will estimate and determine quotients of whole numbers, with and without remainders.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 11	Solve one-step word problems using addition, subtraction, or multiplication.	4.4d	The student will create and solve single-step and multistep practical problems involving addition, subtraction, and multiplication, and single-step practical problems involving division with whole numbers.	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 12	Add wholes, halves, and fourths.	4.5b	The student will add and subtract fractions and mixed numbers having like and unlike denominators.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 13	Solve one-step word problems using addition and subtraction of wholes, halves, and fourths.	4.5c	The student will solve single-step practical problems involving addition and subtraction with fractions and mixed numbers.	Geometric and Spatial Reasoning MATH-GSR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-4 14	Use a variety of coins to count the value through 50 cents.	4.6a	The student will add and subtract with decimals.	Mathematical Reasoning MATH-MR
Measurement and Geometry (MG)	M-4 15	Use unit squares to determine areas up to 20 square feet.	4.7	The student will solve practical problems that involve determining perimeter and area in U.S. Customary and metric units.	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-4 16	Measure length in inches and centimeters.	4.8a	The student will estimate and measure length and describe the result in U.S. Customary and metric units.	Measurement MATH-MEAS
Measurement and Geometry (MG)	M-4 17	Measure weight in pounds.	4.8b	The student will estimate and measure weight/mass and describe the result in U.S. Customary and metric units.	Measurement MATH-MEAS
Measurement and Geometry (MG)	M-4 18	Tell time in whole hour and half hour increments using a digital clock including with context.	4.9	The student will solve practical problems related to elapsed time in hours and minutes within a 12-hour period.	Time, Task and Resource Management MATH – TTRM
Measurement and Geometry (MG)	M-4 19	Identify points, line segments, and angles.	4.10a	The student will identify and describe points, lines, line segments, rays, and angles, including endpoints and vertices.	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-4 20	Identify circles, triangles, squares, and rectangles.	4.11	The student will identify, describe, compare, and contrast plane and solid figures according to their characteristics (number of angles, vertices, edges, and the number and shape of faces) using concrete models and pictorial representations.	Geometric and Spatial Reasoning MATH-GSR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-4 21	Interpret and compare data values represented in a picture or bar graph using simple terms: same, more, less.	4.14b	The student will interpret data represented in bar graphs and line graphs.	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-4 22	Recognize and perform skip counting by 2s, 3s, 5s, and 10s.	4.15	The student will identify, describe, create, and extend patterns found in objects, pictures, numbers, and tables.	Mathematical Reasoning MATH-MR

5th Grade Math VESOL to ASOL Crosswalk

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 1	Identify the location of 0.5 decimals between two whole numbers on a number line; round 0.5 decimals up to the nearest whole number.	5M-NSCE 1	The student will c) round two-digit whole numbers to the nearest 10 from 0–90	Grade 5 Mathematics Sample Activities : Page 1 Grade 5 Mathematics Materials : pages 1-2	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 2	Identify whole numbers 0 through 60 and decimals with 0.5 when given a verbal description.	None	None	None	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 3	Use place value to identify numbers that are multiples of 10, and understand the difference between ones and tens place.	5M-NSCE 1	The student will b) recognize patterns in the number of zeros when multiplying a number by powers of 10	Grade 5 Mathematics Sample Activities : Page 1 Grade 5 Mathematics Materials : pages 1-2	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 4	Determine whether a number from 1 through 40 is divisible by 2, 3, 5, or 10.	5M-NSCE 2	The student will b) apply the concept of fair share and equal shares to divide.	Grade 5 Mathematics Sample Activities : Page 2	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 5	Identify even and odd numbers.	None	None	None	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 6	Use currency for problems up to \$1.00.	None	None	None	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 7	Solve division problems using numbers through 20.	5M-NSCE 3	The student will (SOL 5.5) a) illustrate the concept of division using fair and equal shares	Grade 5 Mathematics Sample Activities : Page 2	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 8	Solve word problems involving addition and subtraction of whole numbers from 0 through 30 and adding mixed numbers ending in $\frac{1}{2}$ and $\frac{1}{4}$.	5M-NSCE 4	The student will a) differentiate between halves, fourths, and eighths; b) solve two-step word problems using addition and subtraction of whole numbers.	Grade 5 Mathematics Sample Activities : Page 3 Grade 5 Mathematics Materials : page 3	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 9	Solve word problems involving addition and subtraction of whole numbers 0 through 30 and adding decimals ending in 0.5.	5M-NSCE 4	The student will b) solve two-step word problems using addition and subtraction of whole numbers.	Grade 5 Mathematics Sample Activities : Page 3 Grade 5 Mathematics Materials : page 3	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 10	Identify an equation that matches a verbal description involving the product of whole numbers and fractions including $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, and decimals ending in 0.5.	5M-NSCE 4	The student will a) differentiate between halves, fourths, and eighths	Grade 5 Mathematics Sample Activities : Page 3 Grade 5 Mathematics Materials : page 3	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 11	Simplify expressions that use parentheses given a verbal or visual model.	None	None	None	Mathematical Reasoning MATH-MR
Measurement and Geometry (MG)	M-5 12	Solve $V = B \times h$ volume problems when provided a model that includes the area measure of the base (B).	5M-MG 1	The student will a) use customary units to measure weight and length of objects; b) determine volume of a cube by counting units of measure.	Grade 5 Mathematics Sample Activities : Page 4	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-5 13	Use addition to solve real world volume problems using unit cubic inches.	5M-MG 1	The student will a) use customary units to measure weight and length of objects; b) determine volume of a cube by counting units of measure.	Grade 5 Mathematics Sample Activities : Page 4	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-5 14	Tell time and measure elapsed time in whole and half hour increments using a digital clock including with context.	4M-MG 2	The student will a) tell time to the half hour using a digital or to the hour using an analog clock.	Grade 4 Mathematics Sample Activities : Page 6	Mathematical Reasoning MATH-MR
Measurement and Geometry (MG)	M-5 15	Identify the geometric shape of a given object (e.g., traffic sign).	None	None	None	Geometric and Spatial Reasoning MATH-GSR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-5 16	Use given data to interpret information from a line plot.	5M-PSPFA 1	The student will b) represent and interpret data on a picture, line plot, or bar graph given a model and a graph to complete.	Grade 5 Mathematics Sample Activities : Page 4	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-5 17	Identify a missing number in a pattern when given an addition rule.	5M-PSPFA 2	The student will a) identify and extend numerical patterns.	Grade 5 Mathematics Sample Activities : Page 5	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-5 18	Identify expressions that match a verbal and/or graphic model.	5M-PSPFA 1	The student will a) compare two sets of data within a single data display such as a picture graph, line plot, or bar graph; b) represent and interpret data on a picture, line plot, or bar graph given a model and a graph to complete.	Grade 5 Mathematics Sample Activities : Page 4	Data Sense MATH-DATA

5th Grade Math VESOL to SOL Crosswalk

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 1	Identify the location of 0.5 decimals between two whole numbers on a number line; round 0.5 decimals up to the nearest whole number.	5.1	The student, given a decimal through thousandths, will round to the nearest whole number, tenth, or hundredth.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 2	Identify whole numbers 0 through 60 and decimals with 0.5 when given a verbal description.	5.2a	The student will represent and identify equivalencies among fractions and decimals, with and without models.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 3	Use place value to identify numbers that are multiples of 10, and understand the difference between ones and tens place.	5.2b	The student will compare and order fractions, mixed numbers, and/or decimals in a given set, from least to greatest and greatest to least.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 4	Determine whether a number from 1 through 40 is divisible by 2, 3, 5, or 10.	5.3a	The student will identify and describe the characteristics of prime and composite numbers.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 5	Identify even and odd numbers.	5.3b	The student will identify and describe the characteristics of even and odd numbers.	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 6	Use currency for problems up to \$1.00.	5.4	The student will create and solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of whole numbers.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 7	Solve division problems using numbers through 20.	5.5a	The student will estimate and determine the product and quotient of two numbers involving decimals.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 8	Solve word problems involving addition and subtraction of whole numbers from 0 through 30 and adding mixed numbers ending in $\frac{1}{2}$ and $\frac{1}{4}$.	5.5b	The student will create and solve single-step and multistep practical problems involving addition, subtraction, and multiplication of decimals, and create and solve single-step practical problems involving division of decimals.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 9	Solve word problems involving addition and subtraction of whole numbers 0 through 30 and adding decimals ending in 0.5.	5.6a	The student will solve single-step and multistep practical problems involving addition and subtraction with fractions and mixed numbers.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 10	Identify an equation that matches a verbal description involving the product of whole numbers and fractions including $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, and decimals ending in 0.5.	5.6b	The student will solve single-step practical problems involving multiplication of a whole number, limited to 12 or less, and a proper fraction, with models.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-5 11	Simplify expressions that use parentheses given a verbal or visual model.	5.7	The student will simplify whole number numerical expressions using the order of operations.	Mathematical Reasoning MATH-MR
Measurement and Geometry (MG)	M-5 12	Solve $V = B \times h$ volume problems when provided a model that includes the area measure of the base (B).	5.8a	The student will solve practical problems that involve perimeter, area, and volume in standard units of measure.	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-5 13	Use addition to solve real world volume problems using unit cubic inches.	5.8b	The student will differentiate among perimeter, area, and volume and identify whether the application of the concept of perimeter, area, or volume is appropriate for a given situation.	Geometric and Spatial Reasoning MATH-GSR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Measurement and Geometry (MG)	M-5 14	Tell time and measure elapsed time in whole and half hour increments using a digital clock including with context.	5.11	The student will solve practical problems related to elapsed time in hours and minutes within a 24-hour period.	Time, Task and Resource Management MATH – TTRM
Measurement and Geometry (MG)	M-5 15	Identify the geometric shape of a given object (e.g., traffic sign).	5.14b	The student will investigate and describe the results of combining and subdividing polygons.	Geometric and Spatial Reasoning MATH-GSR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-5 16	Use given data to interpret information from a line plot.	5.16a	The student, given a practical problem, will represent data in line plots and stem-and-leaf plots.	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-5 17	Identify a missing number in a pattern when given an addition rule.	5.18	The student will identify, describe, create, express, and extend number patterns found in objects, pictures, numbers and tables.	Mathematical Reasoning MATH-MR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-5 18	Identify expressions that match a verbal and/or graphic model.	5.19a	The student will investigate and describe the concept of variable	Data Sense MATH-DATA

6th Grade Math VESOL to ASOL Crosswalk

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-6 1	Identify the location of a point representing a fraction or decimal between two whole numbers on a number line.	None	None	None	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-6 2	Identify the distance of positive and negative numbers from zero on a number line.	None	None	None	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-6 3	Compare whole numbers 0 through 80 on a number line.	6M-NSCE 2	The student will a) understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero).	Grade 6 Mathematics Sample Activities : Page 1 Grade 6 Mathematics Materials pages 1-2	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-6 4	Solve word problems involving addition and subtraction of whole numbers and fractions $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, or $\frac{1}{8}$.	None	None	None	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-6 5	Use currency for problems involving \$10.00 or less including with context.	None	None	None	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-6 6	Add, subtract, and multiply positive integers using a number line including with context.	6M-NSCE 4	The student will a) solve two factor multiplication problems with products up to 50 using concrete objects and/or calculators.	Grade 6 Mathematics Sample Activities : Page 1	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-6 7	Solve practical problems involving multiplication and division of positive integers.	None	None	None	Mathematical Reasoning MATH-MR
Measurement and Geometry (MG)	M-6 8	Tell time and measure elapsed time to the half and quarter hour using analog and digital clocks including with context.	None	None	None	Time, Task and Resource Management MATH – TTRM

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Measurement and Geometry (MG)	M-6 9	Calculate the perimeter of triangles, squares, rectangles, and pentagons.	6M-MG 1	The student will a) demonstrate area	Grade 6 Mathematics Sample Activities : Page 3 Grade 6 Mathematics Materials pages 3-7	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-6 10	Identify points graphed in the first quadrant of the coordinate plane.	None	None	None	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-6 11	Identify congruent shapes.	None	None	None	Geometric and Spatial Reasoning MATH-GSR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-6 12	Interpret data in picture and bar graphs and line plots to identify values.	6M-PSPFA 1	The student will b) summarize data distributions on a graph or table; c) answer a question related to the collected data from an experiment, given a model of data, or from data collected by the student.	Grade 6 Mathematics Sample Activities : Pages 3 & 4	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-6 13	Calculate whole number averages from a data set.	6M-PSPFA 2	The student will a) match an equation to a real-world problem in which variables are used to represent numbers.	Grade 6 Mathematics Sample Activities : Page 4	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-6 14	Identify a missing value in input and output tables that have a proportional relationship between x and y.	None	None	None	Mathematical Reasoning MATH-MR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-6 15	Identify equivalent expressions and equations using one variable.	6M-PSPFA 3	The student will a) demonstrate understanding of equivalent expressions.	Grade 6 Mathematics Sample Activities : Pages 4 & 5	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-6 16	Match practical situations to inequalities.	6M-PSPFA 2	The student will a) match an equation to a real-world problem in which variables are used to represent numbers	Grade 6 Mathematics Sample Activities: Pages 4	

6th Grade Math VESOL to SOL Crosswalk

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-6 1	Identify the location of a point representing a fraction or decimal between two whole numbers on a number line.	6.2a	The student will represent and determine equivalencies among fractions, mixed numbers, decimals, and percents.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-6 2	Identify the distance of positive and negative numbers from zero on a number line.	6.3a	The student will identify and represent integers.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-6 3	Compare whole numbers 0 through 80 on a number line.	6.3b	The student will compare and order integers	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-6 4	Solve word problems involving addition and subtraction of whole numbers and fractions $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, or $\frac{1}{8}$.	6.5a	The student will multiply and divide fractions and mixed numbers.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-6 5	Use currency for problems involving \$10.00 or less including with context.	6.5c	The student will solve multistep practical problems involving addition, subtraction, multiplication, and division of decimals.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-6 6	Add, subtract, and multiply positive integers using a number line including with context.	6.6a	The student will add, subtract, multiply, and divide integers	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-6 7	Solve practical problems involving multiplication and division of positive integers.	6.6b	The student will solve practical problems involving operations with integers.	Mathematical Reasoning MATH-MR
Measurement and Geometry (MG)	M-6 8	Tell time and measure elapsed time to the half and quarter hour using analog and digital clocks including with context.	NA	NA	Time, Task and Resource Management MATH – TTRM
Measurement and Geometry (MG)	M-6 9	Calculate the perimeter of triangles, squares, rectangles, and pentagons.	6.7c	The student will solve problems, including practical problems, involving area and perimeter of triangles and rectangles.	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-6 10	Identify points graphed in the first quadrant of the coordinate plane.	6.8a	The student will identify the components of the coordinate plane.	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-6 11	Identify congruent shapes.	6.9	The student will determine congruence of segments, angles, and polygons.	Geometric and Spatial Reasoning MATH-GSR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-6 12	Interpret data in picture and bar graphs and line plots to identify values.	6.10a	The student, given a practical situation, will represent data in a circle graph.	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-6 13	Calculate whole number averages from a data set.	6.11a	Calculate whole number averages from a dataset.	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-6 14	Identify a missing value in input and output tables that have a proportional relationship between x and y.	6.12a	The student will represent a proportional relationship between two quantities, including those arising from practical situations.	Mathematical Reasoning MATH-MR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-6 15	Identify equivalent expressions and equations using one variable.	6.13	The student will solve one-step linear equations in one variable, including practical problems that require the solution of a one-step linear equation in one variable.	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-6 16	Match practical situations to inequalities.	6.14a	The student will represent a practical situation with a linear inequality in one variable.	Mathematical Reasoning MATH-MR

7th Grade Math VESOL to ASOL Crosswalk

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-7 1	Compare whole numbers from 0 through 50 including in real world applications.	7M-NSCE 3	The student will a) use a ratio to model or describe a relationship;	Grade 7 Mathematics Sample Activities: Pages 2-3 Grade 7 Mathematics Materials pages 5-6	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-7 2	Match fractions and corresponding decimals.	None	None	None	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-7 3	Perform math operations with rational numbers in real world applications.	7M-NSCE 1	The student will a) add fractions with like denominators (halves, thirds, fourths, and tenths) with sums less than or equal to one.	Grade 7 Mathematics Sample Activities: Page 1 Grade 7 Mathematics Materials pages 1-4	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-7 4	Use currency for problems involving \$20.00 or less.	7M-NSCE 2	c) demonstrate the value of various money amounts using decimals.	None	Mathematical Reasoning MATH-MR
Measurement and Geometry (MG)	M-7 5	Tell time and measure elapsed time to the quarter hour and five minutes using analog and digital clocks including with context.	None	None	None	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Measurement and Geometry (MG)	M-7 6	Find the volume of a figure given a formula ($V = l \times w \times h$ or $V = B \times h$).	None	None	None	Measurement MATH-MEAS
Measurement and Geometry (MG)	M-7 7	Identify similar triangles.	None	None	None	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-7 8	Identify two dimensional shapes based on their characteristics.	7M-MG 2	The student will a) draw or classify and recognize basic two-dimensional geometric shapes without a model (circle, triangle, rectangle/square).	Grade 7 Mathematics Sample Activities: Page 3 Grade 7 Mathematics Materials pages 12-19	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-7 9	Identify points graphed in the first and second quadrants of the coordinate plane.	None	None	None	Geometric and Spatial Reasoning MATH-GSR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-7 10	Determine probabilities in real world applications.	7M-PSPFA 1	The student will a) describe the probability of events occurring as possible or impossible.	Grade 7 Mathematics Sample Activities: Page 4 Grade 7 Mathematics Materials pages 20-21	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-7 11	Interpret data in picture and bar graphs and line graphs to identify values.	None	None	None	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-7 12	Evaluate expressions with one variable in real world applications including with money.	None	None	None	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-7 13	Solve one-step word problems using integers in real world applications.	None	None	None	Mathematical Reasoning MATH-MR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-7 14	Determine possible solutions to inequalities with one variable in real world applications.	7M-NSCE 3	b) use the concept of equality with models to solve one-step addition and subtraction equations.	None	Mathematical Reasoning MATH-MR

7th Grade Math VESOL to SOL Crosswalk

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-7 1	Compare whole numbers from 0 through 50 including in real world applications.	7.1b	The student will compare and order numbers greater than zero written in scientific notation.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-7 2	Match fractions and corresponding decimals.	7.1c	The student will compare and order rational numbers.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-7 3	Perform math operations with rational numbers in real world applications.	7.2	Perform math operations with rational numbers in real world applications.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-7 4	Use currency for problems involving \$20.00 or less.	7.2	The student will solve practical problems involving operations with rational numbers.	Mathematical Reasoning MATH-MR
Measurement and Geometry (MG)	M-7 5	Tell time and measure elapsed time to the quarter hour and five minutes using analog and digital clocks including with context.	NA	NA	Time, Task and Resource Management MATH – TTRM
Measurement and Geometry (MG)	M-7 6	Find the volume of a figure given a formula ($V = l \times w \times h$ or $V = B \times h$).	7.4a	The student will describe and determine the volume and surface area of rectangular prisms and cylinders.	Measurement MATH-MEAS
Measurement and Geometry (MG)	M-7 7	Identify similar triangles.	7.5	The student will solve problems, including practical problems, involving the relationship between corresponding sides and corresponding angles of similar quadrilaterals and triangles.	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-7 8	Identify two dimensional shapes based on their characteristics.	7.6a	The student will compare and contrast quadrilaterals based on their properties.	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-7 9	Identify points graphed in the first and second quadrants of the coordinate plane.	7.7	The student will apply translations and reflections of right triangles or rectangles in the coordinate plane.	Geometric and Spatial Reasoning MATH-GSR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-7 10	Determine probabilities in real world applications.	7.8a	The student will determine the theoretical and experimental probabilities of an event.	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-7 11	Interpret data in picture and bar graphs and line graphs to identify values.	7.9a	The student, given data in a practical situation, will represent data in a histogram.	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-7 12	Evaluate expressions with one variable in real world applications including with money.	7.11	The student will evaluate algebraic expressions for given replacement values of the variables.	Mathematical Reasoning MATH-MR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-7 13	Solve one-step word problems using integers in real world applications.	7.12	The student will solve two-step linear equations in one variable, including practical problems that require the solution of a two-step linear equation in one variable.	Mathematical Reasoning MATH-MR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-7 14	Determine possible solutions to inequalities with one variable in real world applications.	7.13	The student will solve one- and two-step linear inequalities in one variable, including practical problems, involving addition, subtraction, multiplication, and division, and graph the solution on a number line.	Mathematical Reasoning MATH-MR

8th Grade Math VESOL to ASOL Crosswalk

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-8 1	Compare positive and negative integers using a number line.	8M-NSCE 1	The student will a) compose and decompose numbers to three digits	Grade 8 Mathematics Sample Activities : Page 1	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-8 2	Use currency for problems involving \$50.00 or less.	None	None	None	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Measurement and Geometry (MG)	M-8 3	Tell time and measure elapsed time in minutes using analog and digital clocks including with context.	None	None	None	Time, Task and Resource Management MATH – TTRM
Measurement and Geometry (MG)	M-8 4	Identify the coordinates of a missing point for given geometric figures.	8M-MG 3	The student will a) identify similarity and congruence (same) in objects and shapes containing angles without transformations; b) identify similar shapes with and without rotation.	Grade 8 Mathematics Sample Activities : Page 2 Grade 8 Mathematics Materials : pages 5-6	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-8 5	Add the areas of squares and rectangles to determine the total area of a figure in square units.	None	None	None	Geometric and Spatial Reasoning MATH-GSR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-8 6	Compare the relative probability of two different objects being selected for an event.	None	None	None	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-8 7	Identify the line of best fit for a scatter plot of two variables with a linear relationship.	None	None	None	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-8 8	Evaluate expressions with one variable in real world applications including using money.	8M-PSPFA 2	a) solve algebraic equations using simple addition and subtraction.	Grade 8 Mathematics Materials : page 28	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-8 9	Identify a missing value in input and output tables based on a given function.	8M-PSPFA 4	The student will a) identify the missing number, when given a function table.	Grade 8 Mathematics Sample Activities : Page 5 Grade 8 Mathematics Materials : pages 29-30	Mathematical Reasoning MATH-MR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-8 10	Identify slope of a line as positive, negative, zero, or undefined when given a description and a graphic.	8M-PSPFA 1	The student will a) determine the values or rule of a function using a graph or a table; b) describe how a graph represents a relationship between two quantities.	Grade 8 Mathematics Sample Activities : Page 3	Geometric and Spatial Reasoning MATH-GSR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-8 11	Interpret linear graphs to determine the slope of a line.	8M-PSPFA 1	The student will a) determine the values or rule of a function using a graph or a table; b) describe how a graph represents a relationship between two quantities.	Grade 8 Mathematics Sample Activities : Page 3	Geometric and Spatial Reasoning MATH-GSR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-8 12	Identify the graph that matches an input and output table.	8M-PSPFA 1	The student will a) determine the values or rule of a function using a graph or a table; b) describe how a graph represents a relationship between two quantities.	Grade 8 Mathematics Sample Activities : Page 3	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-8 13	Solve one- and two-step linear equations with one variable and solutions from 0 through 20.	8M-PSPFA 2	The student will a) solve algebraic equations using simple addition and subtraction.	Grade 8 Mathematics Sample Activities : Page 4 Grade 8 Mathematics Materials : page 28	Mathematical Reasoning MATH-MR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-8 14	Identify a solution that would make an inequality true using symbols $<$, $>$, \leq , or \geq .	None	None	None	Mathematical Reasoning MATH-MR

8th Grade Math VESOL to SOL Crosswalk

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Number, Number Sense, Computation, and Estimation (NNSCE)	M-8 1	Compare positive and negative integers using a number line.	8.1	The student will compare and order real numbers.	Mathematical Reasoning MATH-MR
Number, Number Sense, Computation, and Estimation (NNSCE)	M-8 2	Use currency for problems involving \$50.00 or less.	8.4	The student will solve practical problems involving consumer applications.	Mathematical Reasoning MATH-MR
Measurement and Geometry (MG)	M-8 3	Tell time and measure elapsed time in minutes using analog and digital clocks including with context.	NA	NA	Mathematical Reasoning MATH-MR
Measurement and Geometry (MG)	M-8 4	Identify the coordinates of a missing point for given geometric figures.	8.7a	The student will, given a polygon, apply transformations, to include translations, reflections, and dilations, in the coordinate plane.	Geometric and Spatial Reasoning MATH-GSR
Measurement and Geometry (MG)	M-8 5	Add the areas of squares and rectangles to determine the total area of a figure in square units.	8.10	The student will solve area and perimeter problems, including practical problems, involving composite plane figures.	Geometric and Spatial Reasoning MATH-GSR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-8 6	Compare the relative probability of two different objects being selected for an event.	8.11a	The student will compare and contrast the probability of independent and dependent events.	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-8 7	Identify the line of best fit for a scatter plot of two variables with a linear relationship.	8.13a	8The student will represent data in scatterplots.	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-8 8	Evaluate expressions with one variable in real world applications including using money.	8.14a	The student will evaluate an algebraic expression for given replacement values of the variables.	Mathematical Reasoning MATH-MR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-8 9	Identify a missing value in input and output tables based on a given function.	8.15a	The student will determine whether a given relation is a function.	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-8 10	Identify slope of a line as positive, negative, zero, or undefined when given a description and a graphic.	8.16a	The student will recognize and describe the graph of a linear function with a slope that is positive, negative, or zero.	Geometric and Spatial Reasoning MATH-GSR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-8 11	Interpret linear graphs to determine the slope of a line.	8.16b	The student will identify the slope and y-intercept of a linear function, given a table of values, a graph, or an equation in $y = mx + b$ form.	Geometric and Spatial Reasoning MATH-GSR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-8 12	Identify the graph that matches an input and output table.	8.16e	The student will make connections between and among representations of a linear function using verbal descriptions, tables, equations, and graphs.	Data Sense MATH-DATA
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-8 13	Solve one- and two-step linear equations with one variable and solutions from 0 through 20.	8.17	The student will solve multistep linear equations in one variable with the variable on one or both sides of the equation, including practical problems that require the solution of a multistep linear equation in one variable.	Mathematical Reasoning MATH-MR
Probability, Statistics, Patterns, Functions, and Algebra (PSPFA)	M-8 14	Identify a solution that would make an inequality true using symbols $<$, $>$, \leq , or \geq .	8.18	The student will solve multistep linear inequalities in one variable with the variable on one or both sides of the inequality symbol, including practical problems, and graph the solution on a number line.	Mathematical Reasoning MATH-MR

High School Math VESOL to ASOL Crosswalk

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	ASOL #	Aligned Standard of Learning (ASOL)	ASOL Sample Lesson	Applied Studies Competencies
Algebra - Expressions and Operations (AEO)	M-HS 1	Identify an equation when provided a verbal description in real world applications.	HSM-EO 1	The student will a) match an algebraic expression involving one operation to represent a given word expression with an illustration.	High School Mathematics Sample Activities : Page 1 High School Mathematics Materials : pages 1-10	Mathematical Reasoning MATH-MR
Algebra - Expressions and Operations (AEO)	M-HS 2	Tell time and measure elapsed time to the minute using analog and digital clocks, including with context.	None	None	None	Time, Task and Resource Management MATH – TTRM
Algebra - Expressions and Operations (AEO)	M-HS 3	Evaluate expressions with one variable in real world applications including using money.	HSM-EO 1	The student will a) match an algebraic expression involving one operation to represent a given word expression with an illustration.	High School Mathematics Sample Activities : Page 1 High School Mathematics Materials : pages 1-10	Mathematical Reasoning MATH-MR
Algebra - Expressions and Operations (AEO)	M-HS 4	Use currency for problems involving \$100.00 or less.	None	None	None	Mathematical Reasoning MATH-MR
Algebra - Expressions and Operations (AEO)	M-HS 5	Identify equivalent expressions and evaluate expressions using powers 1-3.	None	None	None	Mathematical Reasoning MATH-MR
Algebra - Equations and Inequalities (AEI)	M-HS 6	Solve one- and two-step linear equations with one variable and solutions from 0 through 40.	HSM-EO 2	The student will b) solve simple one-step equations (multiplication and division) with a variable.	High School Mathematics Sample Activities : Page 1 High School Mathematics Materials : pages 11-14	Mathematical Reasoning MATH-MR

Algebra - Equations and Inequalities (AEI)	M-HS 7	Find the amount of sales tax and total cost for a purchase.	None	None	None	Mathematical Reasoning MATH-MR
Algebra - Equations and Inequalities (AEI)	M-HS 8	Match the line graph with the correct inequality.	HSM-FS 1	The student will b) select the appropriate graphical representation (first quadrant) given a situation involving constant rate of change.	High School Mathematics Sample Activities : Page 3	Data Sense MATH-DATA
Algebra - Functions (AF)	M-HS 9	Identify a missing value in input and output tables based on a given function.	HSM-FS 1	The student will a) use the concept of functions to solve problems;	High School Mathematics Sample Activities : Page 3	Mathematical Reasoning MATH-MR
Algebra - Functions (AF)	M-HS 10	Interpret trends in data including in real world applications.	HSM-FS 2	The student will a) indicate general trends on a graph or chart.	High School Mathematics Sample Activities : Page 4 High School Mathematics Materials : pages 18-22	Data Sense MATH-DATA

High School Math VESOL to SOL Crosswalk

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Algebra - Expressions and Operations (AEO)	M-HS 1	Identify an equation when provided a verbal description in real world applications.	A.1a	The student will represent verbal quantitative situations algebraically.	Mathematical Reasoning MATH-MR
Algebra - Expressions and Operations (AEO)	M-HS 2	Tell time and measure elapsed time to the minute using analog and digital clocks, including with context.	NA	NA	Time, Task and Resource Management MATH – TTRM
Algebra - Expressions and Operations (AEO)	M-HS 3	Evaluate expressions with one variable in real world applications including using money.	A.1b	The student will evaluate algebraic expressions for given replacement values of the variables.	Mathematical Reasoning MATH-MR
Algebra - Expressions and Operations (AEO)	M-HS 4	Use currency for problems involving \$100.00 or less.	A.1b	The student will evaluate algebraic expressions for given replacement values of the variables.	Mathematical Reasoning MATH-MR
Algebra - Expressions and Operations (AEO)	M-HS 5	Identify equivalent expressions and evaluate expressions using powers 1-3.	A.2a	The student will perform operations on polynomials, including applying the laws of exponents to perform operations on expressions.	Mathematical Reasoning MATH-MR

Reporting Category	VESOL ID	Virginia Essentialized Standard of Learning	SOL ID	Virginia Standard of Learning	Applied Studies Competencies
Algebra - Equations and Inequalities (AEI)	M-HS 6	Solve one- and two-step linear equations with one variable and solutions from 0 through 40.	A.4a	The student will solve multistep linear equations in one variable algebraically	Mathematical Reasoning MATH-MR
Algebra - Equations and Inequalities (AEI)	M-HS 7	Find the amount of sales tax and total cost for a purchase.	A.4e	The student will solve practical problems involving equations and systems of equations.	Mathematical Reasoning MATH-MR
Algebra - Equations and Inequalities (AEI)	M-HS 8	Match the line graph with the correct inequality.	A.5a	The student will solve multistep linear inequalities in one variable algebraically and represent the solution graphically.	Data Sense MATH-DATA
Algebra - Functions (AF)	M-HS 9	Identify a missing value in input and output tables based on a given function.	A.7a	The student will investigate and analyze linear and quadratic function families and their characteristics both algebraically and graphically, including determining whether a relation is a function.	Mathematical Reasoning MATH-MR
Algebra - Functions (AF)	M-HS 10	Interpret trends in data including in real world applications.	A.9	The student will collect and analyze data, determine the equation of the curve of best fit in order to make predictions, and solve practical problems, using mathematical models of linear and quadratic functions.	Data Sense MATH-DATA