M03.A-T Numbers and Operations in Base Ten			
Big Idea: M03.A-T.1 – Use place-value understanding and properties of operations to perform multi-digit arithmetic.			
M03.A-T.1.1 Apply place-value strategies to solve problems.		**Essential Questions:** • How is mathematics used to quantify, compare, represent and model numbers? • How can mathematics support effective communication? • How are relationships represented mathematical? • What does it mean to estimate or analyze numerical quantities? • What makes a tool and/or strategy appropriate for a given task? • When is it appropriate to estimate versus calculate? • How can patterns be used to describe relationships in mathematical situations?	
Concepts	**Competencies**	**Resources**	**Assessments**
M03.A-T.1.1.1 Round two- and three-digit whole numbers to the nearest ten or hundred, respectively. **M03.A-T.1.1.2** Add two- and three-digit whole numbers (limit sums from 100 through 1,000) and/or subtract two- and three-digit numbers from three-digit whole numbers. **M03.A-T.1.1.3** Multiply one-digit whole numbers by two-digit multiples of 10 (from 10 through 90). **M03.A-T.1.1.4** Order a set of whole numbers from least to greatest or greatest to least (up through 9,999, and limit sets to no more than four numbers).	**CC.2.1.3.B.1 –** Apply place-value understanding and properties of operations to perform multi-digit arithmetic.	Singapore Math in Focus 2015 Edition Chapter 1, 2, 3, 4, 5, 6, 7 and 9 Resources. • Teacher Manuel • Student Anthology • Student Workbook • Transition Guide • Reteach Book • Extra Practice Book • Enrichment Book • Assessment Book • Achievement facts fluency • Every Day Counts Calendar Math • School to Home Connections manual • Manipulatives • Think Central Technology Platform • Exam View • SAS Portal	• District Adopted Published Assessments Chapter 1, 2, 3, 4, 5, 6, 7, & 9 Test Prep • District Adapted Computer Generated Test • District Created Curriculum Based Assessments • Exact Path Benchmark • PSSA

		• ST Math • Exact Path Diagnostics	
Vocabulary: round, digit, whole numbers, nearest, sums, multiply, multiples, order, greatest, least, multi-digit, properties, arithmetic.			

M03.A-F: Numbers and Operations - Fractions	
Big Idea: M03.A-F.1: Develop an understanding of fractions as numbers.	
M03.A-F.1.1: Develop and apply number theory concepts to compare quantities and magnitudes of fractions and whole numbers.	**Essential Questions:** • How is mathematics used to quantify, compare, represent and model numbers? • How can mathematics support effective communication? • How are relationships represented mathematical? • What does it mean to estimate or analyze numerical quantities? • What makes a tool and/or strategy appropriate for a given task?

		• When is it appropriate to estimate versus calculate? • How can patterns be used to describe relationships in mathematical situations?	
Concepts	**Competencies**	**Resources**	**Assessments**
M03.A-F.1.1.1 Demonstrate that when a whole or set is partitioned into *y* equal parts, the fraction 1/*y* represents 1 part of the whole and/or the fraction *x*/*y* represents *x* equal parts of the whole (limit denominators to 2, 3, 4, 6, and 8; limit numerators to whole numbers less than the denominator; and no simplification necessary). **M03.A-F.1.1.2** Represent fractions on a number line (limit denominators to 2, 3, 4, 6, and 8; limit numerators to whole numbers less than the denominator; and no simplification necessary). **M03.A-F.1.1.3** Recognize and generate simple equivalent fractions (limit the denominators to 1, 2, 3, 4, 6, and 8 and limit numerators to whole numbers less than the denominator). *Example 1: 1/2 = 2/4* *Example 2: 4/6 = 2/3*	**CC.2.1.3.C.1:** Explore and develop an understanding of fractions as numbers.	Singapore Math in Focus 2015 Edition Chapter 14 Resources. • Teacher Manual • Student Anthology • Student Workbook • Transition Guide • Reteach Book • Extra Practice Book • Enrichment Book • Assessment Book • Achievement facts fluency • Every Day Counts Calendar Math • School to Home Connections manual • Manipulatives • Think Central Technology Platform • Exam View • SAS Portal • ST Math • Exact Path Diagnostics	• District Adopted Published Assessments Chapter 14 Test Prep • District Adapted Computer Generated Test • District Created Curriculum Based Assessments • Exact Path Benchmark • PSSA

M03.A-F.1.1.4 Express whole numbers as fractions, and/or generate fractions that are equivalent to whole numbers (limit denominators to 1, 2, 3, 4, 6, and 8). *Example 1: Express 3 in the form 3 = 3/1.* *Example 2: Recognize that 6/1 = 6.* **M03.A-F.1.1.5** Compare two fractions with the same denominator (limit denominators to 1, 2, 3, 4, 6, and 8), using the symbols >, =, or <, and/or justify the conclusions.			
Vocabulary: demonstrate, whole, set, partitioned, equal parts, fraction, represents, denominator, numerator, number line, recognize, generate, equivalent fractions, justify, conclusions, symbols, explore, compare.			

M03.B-O: Operations and Algebraic Thinking			
Big Idea: M03.B-O.1: Represent and solve problems involving multiplication and division.			
M03.B-O.1.1: Understand various meanings of multiplication and division.		**Essential Questions** • How is mathematics used to quantify, compare, represent and model numbers? • How can mathematics support effective communication? • How are relationships represented mathematically? • What does it mean to estimate or analyze numerical quantities? • What makes a tool and/or strategy appropriate for a given task? • When is it appropriate to estimate versus calculate? • How can patterns be used to describe relationships in mathematical situations?	
Concepts	**Competencies**	**Resources**	**Assessments**

M03.B-O.1.1.1 Interpret and/or describe products of whole numbers (up to and including 10 × 10). *Example 1: Interpret 35 as the total number of objects in 5 groups, each containing 7 objects.* *Example 2: Describe a context in which a total number of objects can be expressed as 5 × 7.* **M03.B-O.1.1.2** Interpret and/or describe whole-number quotients of whole numbers (limit dividends through 50 and limit divisors and quotients through 10). *Example 1: Interpret 48 ÷ 8 as the number of objects in each share when 48 objects are partitioned equally into 8 shares, or as a number of shares when 48 objects are partitioned into equal shares of 8 objects each.* *Example 2: Describe a context in which a number of shares or a number of groups can be expressed as 48 ÷ 8.*	**CC.2.2.3.A.1:** Represent and solve problems involving multiplication and division.	Singapore Math in Focus 2015 Edition Chapter 6, 7, 8, and 9 Resources. • Teacher Manuel • Student Anthology • Student Workbook • Transition Guide • Reteach Book • Extra Practice Book • Enrichment Book • Assessment Book • Achievement facts fluency • Every Day Counts Calendar Math • School to Home Connections manual • Manipulatives • Think Central Technology Platform • Exam View • SAS Portal • ST Math • Exact Path Diagnostics	• District Adopted Published Assessments Chapter 6,7,8, & 9 Test Prep • District Adapted Computer Generated Test • District Created Curriculum Based Assessments • Exact Path Benchmark • PSSA
Vocabulary: interpret, describe, product, object, quotient divisor, partition, equal, context, represent, solve, problem, multiplication, division.			

M03.B-O: Operations and Algebraic Thinking

Big Idea: M03. B-O.1 Represent and solve problems involving multiplication and division.

M03.B-O.1.2.: Solve mathematical and real-world problems using multiplication and division, including determining the missing number in a multiplication and/or division equation.

Essential Questions:

- How is mathematics used to quantify, compare, represent and model numbers?
- How can mathematics support effective communication?
- How are relationships represented mathematically?
- What does it mean to estimate or analyze numerical quantities?
- What makes a tool and/or strategy appropriate for a given task?
- When is it appropriate to estimate versus calculate?
- How can patterns be used to describe relationships in mathematical situations?

Concepts	Competencies	Resources	Assessments
M03.B-O.1.2.1 Use multiplication (up to and including 10 × 10) and/or division (limit dividends through 50 and limit divisors and quotients through 10) to solve word problems in situations involving equal groups, arrays, and/or measurement quantities. **M03.B-O.1.2.2** Determine the unknown whole number in a multiplication (up to and including 10 × 10) or division (limit dividends through 50 and limit divisors and quotients through 10) equation relating three whole numbers. *Example: Determine the unknown number that makes an equation true.*	**CC.2.1.3.A.1:** Represent and solve problems involving multiplication and division.	Singapore Math in Focus 2015 Edition Chapter 9 Resources. • Teacher Manuel • Student Anthology • Student Workbook • Transition Guide • Reteach Book • Extra Practice Book • Enrichment Book • Assessment Book • Achievement facts fluency • Every Day Counts Calendar Math • School to Home Connections manual • Manipulatives • Think Central Technology Platform • Exam View • SAS Portal	• District Adopted Published Assessments Chapter 9 Test Prep • District Adapted Computer Generated Test • District Created Curriculum Based Assessments • Exact Path Benchmark • PSSA

		• ST Math • Exact Path Diagnostics	
Vocabulary: multiplication, division, dividend, divisor, quotient, word problem, solve, equal group, array, measurement, quantity, unknown, relate, equation, represent.			

M03.B-O: Operations and Algebraic Thinking	
Big Idea: M03. B-O.2: Understand properties of multiplication and the relationship between multiplication and division.	
M03.B-O.2.1: Use properties to simplify and solve multiplication problems.	**Essential Questions:** • How is mathematics used to quantify, compare, represent and model numbers? • How can mathematics support effective communication? • How are relationships represented mathematically? • What does it mean to estimate or analyze numerical quantities? • What makes a tool and/or strategy appropriate for a given task? • When is it appropriate to estimate versus calculate?

		• How can patterns be used to describe relationships in mathematical situations?	
Concepts	**Competencies**	**Resources**	**Assessments**
M03.B-O.2.1.1 Apply the commutative property of multiplication (not identification or definition of the property). **M03.B-O.2.1.2** Apply the associative property of multiplication (not identification or definition of the property).	**CC.2.2.3.A.2:** Understand properties of multiplication and the relationship between multiplication and division.	Singapore Math in Focus 2015 Edition Chapter 6 and 7 Resources. • Teacher Manuel • Student Anthology • Student Workbook • Transition Guide • Reteach Book • Extra Practice Book • Enrichment Book • Assessment Book • Achievement facts fluency • Every Day Counts Calendar Math • School to Home Connections manual • Manipulatives • Think Central Technology Platform • Exam View • SAS Portal • ST Math • Exact Path Diagnostics	• District Adopted Published Assessments Chapter6 & 7 Test Prep • District Adapted Computer Generated Test • District Created Curriculum Based Assessments • Exact Path Benchmark • PSSA
Vocabulary: commutative property, multiplication, associative property, property, division, relationship.			

M03.B-O: Operations and Algebraic Thinking	
Big Idea: M03. B-O.2 Understand the properties of multiplication and the relationship between multiplication and division.	
M03.B-O.2.2: Relate division to a missing number multiplication equation.	**Essential Questions:** • How is mathematics used to quantify, compare, represent and model numbers?

		• How can mathematics support effective communication? • How are relationships represented mathematically? • What does it mean to estimate or analyze numerical quantities? • What makes a tool and/or strategy appropriate for a given task? • When is it appropriate to estimate versus calculate? • How can patterns be used to describe relationships in mathematical situations?	
Concepts	**Competencies**	**Resources**	**Assessments**
M03.B-O.2.2.1 Interpret and/or model division as a multiplication equation with an unknown factor. *Example: Find 32 ÷ 8 by solving 8 × ? = 32.*	**CC.2.2.3.A.2:** Understand properties of multiplication and the relationship between multiplication and division.	Singapore Math in Focus 2015 Edition Chapter 6, 8 and 9 Resources. • Teacher Manuel • Student Anthology • Student Workbook • Transition Guide • Reteach Book • Extra Practice Book • Enrichment Book • Assessment Book • Achievement facts fluency • Every Day Counts Calendar Math • School to Home Connections manual • Manipulatives • Think Central Technology Platform • Exam View • SAS Portal • ST Math • Exact Path Diagnostics	• District Adopted Published Assessments Chapter 6, 8, & 9 Test Prep • District Adapted Computer Generated Test • District Created Curriculum Based Assessments • Exact Path Benchmark • PSSA
Vocabulary: interpret, model, division, multiplication, equation, unknown factor, property, relationship.			

M03.B-O: Operations and Algebraic Thinking

Big Idea: M03. B-O.3. Solve problems involving the four operations and identify and explain patterns in arithmetic.

M03.B-O.3.1: Use operations, patterns, and estimation strategies to solve problems (may include word problems).

Essential Questions:

- How is mathematics used to quantify, compare, represent and model numbers?
- How can mathematics support effective communication?
- How are relationships represented mathematically?
- What does it mean to estimate or analyze numerical quantities?
- What makes a tool and/or strategy appropriate for a given task?
- When is it appropriate to estimate versus calculate?
- How can patterns be used to describe relationships in mathematical situations?

Concepts	Competencies	Resources	Assessments
M03.B-O.3.1.1 Solve two-step word problems using the four operations (expressions are not explicitly stated). Limit to problems with whole numbers and having whole-number answers. **M03.B-O.3.1.2** Represent two-step word problems using equations with a symbol standing for the unknown quantity. Limit to problems with whole numbers and having whole-number answers. **M03.B-O.3.1.3** Assess the reasonableness of answers. Limit problems posed with whole numbers and having whole-number answers.	**CC.2.2.3.A.4.:** Solve problems involving the four operations and identify and explain patterns in arithmetic.	Singapore Math in Focus 2015 Edition Chapter 5 and 9 Resources. • Teacher Manuel • Student Anthology • Student Workbook • Transition Guide • Reteach Book • Extra Practice Book • Enrichment Book • Assessment Book • Achievement facts fluency • Every Day Counts Calendar Math • School to Home Connections manual • Manipulatives • Think Central Technology Platform • Exam View • SAS Portal	• District Adopted Published Assessments Chapter 5 & 9 Test Prep • District Adapted Computer Generated Test • District Created Curriculum Based Assessments • Exact Path Benchmark • PSSA

M03.B-O.3.1.4 Solve two-step equations using order of operations (equation is explicitly stated with no grouping symbols). **M03.B-O.3.1.5** Identify arithmetic patterns (including patterns in the addition table or multiplication table) and/or explain them using properties of operations. *Example 1: Observe that 4 times a number is always even.* *Example 2: Explain why 6 times a number can be decomposed into three equal addends.* **M03.B-O.3.1.6** Create or match a story to a given combination of symbols (+, –, ×, ÷, <, >, and =) and numbers. **M03.B-O.3.1.7** Identify the missing symbol (+, –, ×, ÷, <, >, and =) that makes a number sentence true.		• ST Math • Exact Path Diagnostics	
Vocabulary: two-step word problem, operation, answer, represent, equation, symbol, unknown quantity, order of operation, arithmetic, pattern, identify, addition table, multiplication table, table, property, create, match, combination, number sentence.			

M03.C-G: Geometry

Big Idea: M03. C-G.1: Reason with shapes and their attributes.

M03.C-G.1.1: Analyze characteristics of polygons.

Essential Question(s):

- How can patterns be used to describe relationships in mathematical situations?
- How can recognizing repetition or regularity assist in solving problems more efficiently?
- How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?
- How can geometric properties and theorems be used to describe, model and analyze situations?
- How are spatial relationships, including shape and dimension, used to draw, construct, model and present real situations or solve problems?

Concepts	Competencies	Resources	Assessments
M03.C-G.1.1.1 Explain that shapes in different categories may share attributes and that the shared attributes can define a larger category. *Example 1: A rhombus and a rectangle are both quadrilaterals since they both have exactly four sides.* *Example 2: A triangle and a pentagon are both polygons since they are both multi-sided plane figures.* **M03.C-G.1.1.2** Recognize rhombi, rectangles, and squares as examples of quadrilaterals and/or draw examples of quadrilaterals that do not	**CC.2.2.3.A.1:** Indentify, compare and classify shapes and their attributes. **CC2.3.3.A.2:** Use the understanding of fractions to partition shapes into parts with equal areas and express the area of each part as a unit fraction of the whole.	Singapore Math in Focus 2015 Edition Chapter 17 and 18 Resources. • Teacher Manuel • Student Anthology • Student Workbook • Transition Guide • Reteach Book • Extra Practice Book • Enrichment Book • Assessment Book • Achievement facts fluency • Every Day Counts Calendar Math • School to Home Connections manual • Manipulatives • Think Central Technology Platform • Exam View	• District Adopted Published Assessments Chapter17 & 18 Test Prep • District Adapted Computer Generated Test • District Created Curriculum Based Assessments • Exact Path Benchmark • PSSA

belong to any of these subcategories. **M03.C-G.1.1.3** Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *Example 1: Partition a shape into 4 parts with equal areas.* *Example 2: Describe the area of each of 8 equal parts as 1/8 of the area of the shape.*		• SAS Portal • ST Math • Exact Path Diagnostics	
Vocabulary: explain, category, attribute, recognize, rhombi, rectangle, square, quadrilateral, example, subcategory, partition, shape, express, equal area, area, part, unit fraction.			

M03.D-M: Measurement and Data			
Big Idea: M03.M.1: Solve problems involving measurement and estimation of intervals of time, money, liquid, volumes, masses and lengths of objects.			
M03.M.1.1: Determine of calculate time and elapsed time.		**Essential Questions:** • What does it mean to estimate or analyze numerical quantities? • When is it appropriate to estimate versus calculate? • What makes a tool and/or strategy appropriate for a given task? • Why does "what" we measure influence "how" we measure? • In what ways are the mathematical attributes of objects or processes measured, calculated and/or interpreted? • How precise do measurements and calculations need to be? • How can data be organized and represented to provide insight into the relationship between quantities? • How does the type of data influence the choice of display? • How can probability and data analysis be used to make predictions?	
Concepts	**Competencies**	**Resources**	**Assessments**

M03.D-M.1.1.1 Tell, show, and/or write time (analog) to the nearest minute. **M03.D-M.1.1.2** Calculate elapsed time to the minute in a given situation (total elapsed time limited to 60 minutes or less).	**CC.2.2.3.A.2:** Tell and write time to the nearest minute and solve problems by calculating time intervals.	Singapore Math in Focus 2015 Edition Chapter 16 Resources. • Teacher Manuel • Student Anthology • Student Workbook • Transition Guide • Reteach Book • Extra Practice Book • Enrichment Book • Assessment Book • Achievement facts fluency • Every Day Counts Calendar Math • School to Home Connections manual • Manipulatives • Think Central Technology Platform • Exam View • SAS Portal • ST Math • Exact Path Diagnostics	• District Adopted Published Assessments Chapter 16Test Prep • District Adapted Computer Generated Test • District Created Curriculum Based Assessments • Exact Path Benchmark • PSSA
Vocabulary: tell, show, time, analog, nearest, calculate, elapsed, intervals.			

M03.D-M: Measurement and Data	
Big Idea: M03.M.1: Solve problems involving measurement and estimation of intervals of time, money, liquid, volumes, masses and lengths of objects.	
M03.M.1.2.: Use the attributes of liquid, volume, mass and length of objects.	**Essential Questions:** • What does it mean to estimate or analyze numerical quantities? • When is it appropriate to estimate versus calculate? • What makes a tool and/or strategy appropriate for a given task? • Why does "what" we measure influence "how" we measure? • In what ways are the mathematical attributes of objects or processes measured, calculated and/or interpreted?

		• How precise do measurements and calculations need to be? • How can data be organized and represented to provide insight into the relationship between quantities? • How does the type of data influence the choice of display? • How can probability and data analysis be used to make predictions?	
Concepts	**Competencies**	**Resources**	**Assessments**
M03.D-M.1.2.1 Measure and estimate liquid volumes and masses of objects using standard units (cups [c], pints [pt], quarts [qt], gallons [gal], ounces [oz.], and pounds [lb]) and metric units (liters [l], grams [g], and kilograms [kg]). **M03.D-M.1.2.2** Add, subtract, multiply, and divide to solve one step word problems involving masses or liquid volumes that are given in the same units. **M03.D-M.1.2.3** Use a ruler to measure lengths to the nearest quarter inch or centimeter.	**CC.2.4.3.A.1.:** Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.	Singapore Math in Focus 2015 Edition Chapter 11, 12 and 15 Resources. • Teacher Manuel • Student Anthology • Student Workbook • Transition Guide • Reteach Book • Extra Practice Book • Enrichment Book • Assessment Book • Achievement facts fluency • Every Day Counts Calendar Math • School to Home Connections manual • Manipulatives • Think Central Technology Platform • Exam View • SAS Portal • ST Math • Exact Path Diagnostics	• District Adopted Published Assessments Chapter 11, 12 & 15 Test Prep • District Adapted Computer Generated Test • District Created Curriculum Based Assessments • Exact Path Benchmark • PSSA
Vocabulary: measure, estimate, volume, mass, standard, unit, cup, pint, quart, gallon, ounce, pound, metric unit, liter, gram, kilogram, add, subtract, multiply, divide, one step word problem, ruler, inch, centimeter, liquid, lengths.			

M03.D-M: Measurement and Data

Big Idea: M03.D-M.1: Solve problems involving measurement and estimation of intervals' of time, money, liquid, volumes, masses and lengths of objects.

M03.D-M.1.3: Count, compare and make change using a collection of coins and one-dollar bills

Essential Questions:

- What does it mean to estimate or analyze numerical quantities?
- When is it appropriate to estimate versus calculate?
- What makes a tool and/or strategy appropriate for a given task?
- Why does "what" we measure influence "how" we measure?
- In what ways are the mathematical attributes of objects or processes measured, calculated and/or interpreted?
- How precise do measurements and calculations need to be?
- How can data be organized and represented to provide insight into the relationship between quantities?
- How does the type of data influence the choice of display?
- How can probability and data analysis be used to make predictions?

Concepts	Competencies	Resources	Assessments
M03.D-M.1.3.1: Compare total values of combinations of coins (penny, nickel, dime, and quarter) and/or dollar bills less than $5.00. **M03.D-M.1.3.2:** Make change for an amount up to $5.00 with no more than $2.00 change given (penny, nickel dime, quarter and dollar). **M03.D-M.1.3.3:** Round amounts of money to the nearest dollar.	**CC.2.4.3.A.3:** Solve problems and make change involving money using a combination of coins and bills.	Singapore Math in Focus 2015 Edition Chapter 10 Resources. • Teacher Manuel • Student Anthology • Student Workbook • Transition Guide • Reteach Book • Extra Practice Book • Enrichment Book • Assessment Book • Achievement facts fluency • Every Day Counts Calendar Math • School to Home Connections manual • Manipulatives • Think Central Technology Platform • Exam View • SAS Portal	• District Adopted Published Assessments Chapter10 Test Prep • District Adapted Computer Generated Test • District Created Curriculum Based Assessments • Exact Path Benchmark • PSSA

		• ST Math • Exact Path Diagnostics	
Vocabulary: compare, value, combination, coins, penny, nickel, dime, quarter, dollar, bill, less, change, amount, more, round, amount, nearest.			

M03.D-M: Measurement and Data			
Big Idea: M03.D-M.2: Represent and interpret data.			
M03.D-M.2.1: Organize, display and answer questions based on data.		**Essential Questions:** • What does it mean to estimate or analyze numerical quantities? • When is it appropriate to estimate versus calculate? • What makes a tool and/or strategy appropriate for a given task? • Why does "what" we measure influence "how" we measure? • In what ways are the mathematical attributes of objects or processes measured, calculated and/or interpreted? • How precise do measurements and calculations need to be? • How can data be organized and represented to provide insight into the relationship between quantities? • How does the type of data influence the choice of display? • How can probability and data analysis be used to make predictions?	
Concepts	**Competencies**	**Resources**	**Assessments**
M03.D-M.2.1.1: Complete a scaled pictograph and a scaled bar graph to represent a data set with several categories (scales limited to 1, 2, 5, and 10). **M03.D-M.2.1.2:** Solve one and two step problems using information to interpret data	**CC.2.4.3.A.4:** Represent and interpret data using tally charts, tables, pictographs, line plots and bar graphs.	Singapore Math in Focus 2015 Edition 13 Resources. • Teacher Manuel • Student Anthology • Student Workbook • Transition Guide • Reteach Book • Extra Practice Book	• District Adopted Published Assessments Chapter 13Test Prep • District Adapted Computer Generated Test • District Created Curriculum Based Assessments • Exact Path Benchmark

presented in scaled pictographs and scaled bar graphs (scales limited to 1, 2, 5, 10) *Example 1: (One-step): "Which category is the largest?"* *Example 2: (Two-step): "How many more are in category A than in category B?"* **M03.D-M.2.1.3:** Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Display the data by making a line plot, where the horizontal scale is marked in appropriate units – whole numbers, halves or quarters. **M03.D-M.2.1.4:** Translate information from one type of display to another. Limit to pictographs, tally charts, bar graphs and tables. *Example: Convert a tally chart to a bar graph.*		• Enrichment Book • Assessment Book • Achievement facts fluency • Every Day Counts Calendar Math • School to Home Connections manual • Manipulatives • Think Central Technology Platform • Exam View • SAS Portal • ST Math • Exact Path Diagnostics	• PSSA
Vocabulary: scaled, pictograph, bar graph, represent, data set, category, solve, two-step problems, information, interpret, data, generate, measurement, lengths, rulers, marked, halves, fourths, inch, display, line plot, horizontal, appropriate, units, whole numbers, quarters, translate, tally chart, table.			

M03.D-M: Measurement and Data
Big Idea: M03.D-M.3.1: Geometric measurement: understand concepts of area and related area to multiplication and to addition.

M03.D-M.3.1: Find the areas of plane figures.		**Essential Questions:** • What does it mean to estimate or analyze numerical quantities? • When is it appropriate to estimate versus calculate? • What makes a tool and/or strategy appropriate for a given task? • Why does "what" we measure influence "how" we measure? • In what ways are the mathematical attributes of objects or processes measured, calculated and/or interpreted? • How precise do measurements and calculations need to be? • How can data be organized and represented to provide insight into the relationship between quantities? • How does the type of data influence the choice of display? • How can probability and data analysis be used to make predictions?	
Concepts	**Competencies**	**Resources**	**Assessments**
M03.D-M.3.1.1: Measure areas by counting unit squares (square cm, square m, square in., square ft and non-standard square units). **M03.D-M.3.1.2:** 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.	**CC.2.4.3.A.5:** Determine the area of a rectangle and apply the concept to multiplication and to addition.	Singapore Math in Focus 2015 Edition Chapter 19 Resources. • Teacher Manuel • Student Anthology • Student Workbook • Transition Guide • Reteach Book • Extra Practice Book • Enrichment Book • Assessment Book • Achievement facts fluency • Every Day Counts Calendar Math • School to Home Connections manual • Manipulatives • Think Central Technology Platform • Exam View • SAS Portal • ST Math	• District Adopted Published Assessments Chapter 19 Test Prep • District Adapted Computer Generated Test • District Created Curriculum Based Assessments • Exact Path Benchmark • PSSA

		• Exact Path Diagnostics	
Vocabulary: measure, area, count, unit square, centimeter, meter, inch, feet, non-standard unit, multiply, side, lengths, area, rectangles, whole-number, context, solve, real-world, mathematical, problem, represent, whole-number, products, mathematical reasoning.			

M03.D-M: Measurement and Data			
Big Idea: M03.D-M.4: Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.			
M03.D-M.4.1: Find and use the perimeters of plane figures		**Essential Questions:** • What does it mean to estimate or analyze numerical quantities? • When is it appropriate to estimate versus calculate? • What makes a tool and/or strategy appropriate for a given task? • Why does "what" we measure influence "how" we measure? • In what ways are the mathematical attributes of objects or processes measured, calculated and/or interpreted? • How precise do measurements and calculations need to be? • How can data be organized and represented to provide insight into the relationship between quantities? • How does the type of data influence the choice of display? • How can probability and data analysis be used to make predictions?	
Concepts	**Competencies**	**Resources**	**Assessments**
M03.D-M.4.1.1: Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, exhibiting rectangles with the same perimeter and different areas, and exhibiting	**CC.2.4.3.A.6:** Solve problems involving perimeters of polygons and distinguish between linear and area measures.	Singapore Math in Focus 2015 Edition Chapter 19 Resources. • Teacher Manuel • Student Anthology • Student Workbook • Transition Guide • Reteach Book	• District Adopted Published Assessments Chapter 19 Test Prep • District Adapted Computer Generated Test • District Created Curriculum Based Assessments

rectangles with the same area and different perimeters. Use the same units throughout the problem.		• Extra Practice Book • Enrichment Book • Assessment Book • Achievement facts fluency • Every Day Counts Calendar Math • School to Home Connections manual • Manipulatives • Think Central Technology Platform • Exam View • SAS Portal • ST Math • Exact Path Diagnostics	• Exact Path Benchmark • PSSA
Vocabulary: solve, real-world, mathematical problem, perimeter, polygon, perimeter, side length, exhibited, rectangle, area, unit, problem, linear, area, measure.			