ALPHA BORO PUBLIC SCHOOL

CONTENT AREA: Mathematics	GRADE: 3	UNIT: #1	UNIT NAME: Represent and Solve Problems Involving Multiplication and Division

#	STUDENT LEARNING OBJECTIVES	CORRESPONDING CCSS
1	Interpret products of whole numbers as repeated addition or equal groups of objects (up to 100).	3.OA.1
2	Explain division as a set of objects partitioned equally into a number of shares (up to 100).	3.OA.2
3	Determine the unknown in a division or multiplication equation with an unknown relating 3 whole numbers up to 100 (does not require students to solve from memory).	3.OA.4
4	Round whole numbers to the nearest 10 or 100.	3.NBT.1
5	**Fluently add and subtract (with regrouping) two 2-digit whole numbers within 100.**	**3.NBT.2**
6	Multiply one-digit whole numbers by multiples of 10 (10 - 90).	3.NBT.3
7	Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).	3.MD.6
8	Explain the relationship between tiling/multiplying side lengths to find the area of rectangles.	3.MD.7a,b

Additional (Identified by PARCC Model Content Frameworks).

Bold type indicates grade level fluency requirements. (Identified by PARCC Model Content Frameworks).

ALPHA BORO PUBLIC SCHOOL

CONTENT AREA: Mathematics	GRADE: 3	UNIT: # 1	UNIT NAME: Represent and Solve Problems Involving Multiplication and Division

Selected Opportunities for Connection to Mathematical Practices

1. **Make sense of problems and persevere in solving them.**

   SLO #7 Use concrete objects or pictures to help conceptualize measures of area.

2. Reason abstractly and quantitatively.

3. **Construct viable arguments and critique the reasoning of others.**

   SLO #7 Analyze measures of area by breaking them into unit squares

4. **Model with mathematics.**

   SLO #7 Use and apply previously learned concepts about unit measurements to solve area measure problems.

5. **Use appropriate tools strategically.**

   SLO #7 Consider available and appropriate tools, such as arrays, models, and drawings, when solving area measure problems.

   SLO #6 Use concrete objects or pictures to help conceptualize measures of area.

6. Attend to precision.

7. **Look for and make use of structure.**

   SLO #4 Fluently multiply and divide within 50, using the relationship between multiplication and division; e.g., if 44 ÷ 2 equals 22, then 22 × 2 must equal 44.

   SLO #8 Compare area measures (rectangles) by tiling and computing the product of the side lengths.

8. Look for and express regularity in repeated reasoning.

Bold type identifies possible starting points for connections to the SLOs in this unit.

| CONTENT AREA: Mathematics | GRADE: 3 | UNIT: #1 | UNIT NAME: Represent and Solve Problems Involving Multiplication and Division |

Code #	Common Core State Standards
3.OA.1	Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.*
3.OA.2	Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 object each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*
3.OA.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations:* $8 \times ? = 48$, $5 = \square \div 3$, $6 \times 6 = ?$
3.NBT.1	Use place value understanding to round whole numbers to the nearest 10 or 100.
3.NBT.2	**Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.**
3.NBT.3	Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.
3.MD.6	Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).
3.MD.7a/b	Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.

Major Supporting Additional (identified by PARCC Model Content Frameworks).

Bold type indicates grade level fluency requirements. (identified by PARCC Model Content Frameworks).

ALPHA BORO PUBLIC SCHOOL

CONTENT AREA: Math	GRADE: 3	UNIT: # 2	UNIT NAME: Properties of Operations

#	STUDENT LEARNING OBJECTIVES	CORRESPONDING CCSS
1	Recognize the Commutative, Associative, and Distributive Properties as strategies to add and multiply whole numbers.	3.OA.5
2	Solve division of whole numbers by representing the problem as an unknown factor problem.	3.OA.6
3	**Multiply and divide within 40 using strategies such as the relationship between multiplication and division.**	3.OA.7
4	Use multiplication within 100 to solve word problems using measurement quantities by creating drawings or arrays.	3.OA.3
5	Use multiplication within 100 to solve word problems modeled as equal groups or arrays by writing equations to represent equal groups or arrays.	3.OA.3
6	Recognize arithmetic patterns in addition or multiplication tables and explain the pattern using the properties of operations.	3.OA.9
7	Use the area model (with rectangles) to explain the Distributive Property.	3.MD.7c
8	Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.	3.MD.7d

Major Content Supporting Content Additional Content (Identified by PARCC Model Content Frameworks).

Bold type indicates grade level fluency requirements. *(Identified by PARCC Model Content Frameworks).*

ALPHA BORO PUBLIC SCHOOL

CONTENT AREA: Math	GRADE: 3	UNIT: # 2	UNIT NAME: Properties of Operations

Selected Opportunities for Connection to Mathematical Practices

1. **Make sense of problems and persevere in solving them.**
   SLO #2 In a division problem, analyze given information and the relationship between multiplication and division to solve the problem.
   SLO #7 Use concrete objects or pictures to help conceptualize area models in order to explain the Distributive Property.
   SLO #8 Use concrete objects or pictures to help conceptualize areas of rectilinear figures in order to solve real world area problems.

2. **Reason abstractly and quantitatively.**
   SLO #2 Make sense of quantities and their relationships in division problems that are represented as unknown factor problems.
   SLO #3 Apply both multiplication and division abilities to problems involving quantitative relationships.
   SLO #6 Know and flexibly use different properties of operations to analyze addition or multiplication tables.

3. **Construct viable arguments and critique the reasoning of others.**
   SLO #1 Use previously established definitions to recognize that the Commutative, Associative, and Distributive Properties are strategies to add and multiply whole numbers.
   SLO #6 Use previously established property of operations to establish reasoning about patterns in addition or multiplication tables.
   SLO #6 Justify and be able to explain conclusions made about patterns in addition or multiplication tables.

4. **Model with mathematics.**
   SLO #4 Apply previously learned multiplication skills to solve word problems that involve multiplication, measurement, arrays, & drawings.
   SLO #5 Apply previously learned multiplication and equation writing skills to solve world problems.
   SLO #8 Use and apply previously learned concepts about addition and decomposing to solve real world area problems.

5. **Use appropriate tools strategically.**
   SLO #4 Use available and appropriate tools such as drawings and arrays, when solving multiplication word problems that require the use of drawings or arrays.
   SLO #7 Consider available and appropriate tools, such as arrays, models, and drawings, when using the area model to explain the Distributive Property.
   SLO #8 Consider available and appropriate tools, such as arrays, models, and drawings, when finding the area of rectilinear figures.

6. **Attend to precision.**
   SLO #6 Precisely communicate arithmetic patterns in addition and multiplication tables.
   SLO #7 Communicate precisely how the area model can illustrate the Distributive Property.

7. **Look for and make use of structure.**
   SLO #6 discern arithmetic patterns in addition or multiplication tables.

8. Look for and express regularity in repeated reasoning.

Bold type identifies possible starting points for connections to the SLOs in this unit.

ALPHA BORO PUBLIC SCHOOL

CONTENT AREA: Math	GRADE: 3	UNIT: # 2	UNIT NAME: Properties of Operations

Code #	Common Core State Standards
3.OA.3	Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
3.OA.5	Apply properties of operations as strategies to multiply and divide. Examples: If 6 x 4 = 24 is known, then 4 x 6 = 24 is also known. (Commutative property of multiplication.) 3 x 5 x 2 can be found by 3 x 5 = 15, then 15 x 2 =30, or by 5 x 2= 10, then 3 x 10 = 30. (Associative property of multiplication) Knowing that 8 x 5 = 40 and 8 x 2 = 16, one can find 8 x 7 as 8 x (5 + 2) = (8 x 5) + (8 x 2) = 40 + 16 = 56 (Distributive property). (Students need not use formal terms for these properties)
3.OA.6	Understand division as an unknown factor problem. For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.
3.OA.7	**Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 x 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations.**
3.OA.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.

3.MD.7 d	Relate area to the operations of multiplication and addition.
	  c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths *a* and *b* + *c* is the sum of *a* × *b* and *a* × *c*. Use area models to represent the distributive property in mathematical reasoning.
	  d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.

ALPHA BORO PUBLIC SCHOOL

CONTENT AREA: Mathematics	GRADE: 3	UNIT: # 3	UNIT NAME: Solve Problems Involving the Four Operations & Understand Fractions as Numbers on the Number Line

#	STUDENT LEARNING OBJECTIVES	CORRESPONDING CCSS
1	Tell and write time to the nearest minute to solve word problems involving time intervals in minutes.	3.MD.1
2	Solve one-step word problems by estimating, measuring, and comparing liquid volumes and masses using appropriate tools and units.	3.MD.2
3	Interpret the unit fraction **1/b** as the quantity formed by **1** of **b** equal parts of a whole and the fraction **a/b** as the quantity formed by **a** parts **1/b**; e.g., 3 unit fractions of 1/4 add to the quantity 3/4.	3.NF.1
4	Represent the equal parts of shapes as a unit fraction (e.g., a pizza cut into 8 equal slices has 8 slices and each slice has quantity 1/8 of the whole pizza).	3.G.2 / 3.NF.1
5	Make a drawing of a number line depicting the position of **1/b** (with **b** = 2, 3, 4, 6, or 8). Represent the unit fraction 1/4 on the number line by dividing the number line between 0 & 1 into 4 equal lengths and naming the point at the end of the first length as the position of unit fraction 1/4; apply the same method for locating the points 1/2, 1/3, 1/5, 1/6, and 1/8 on the number line.	3.NF.2a
6	Make a drawing of a number line depicting a fraction **a/b** (with **a < b** and **b** = 2, 4, 3, 4, 6, or 8).	3.NF.2b
7	**Fluently multiply and divide within 50, using the relationship between multiplication and division** (e.g., if 44 ÷ 2 equals 22, then 22 × 2 must equal 44).	3.OA.7
8	Find the value of an unknown (expressed as a letter) in an equation that is a representation of a two-step word problem (with any four operations) and assess the reasonableness of the value.	3.OA.8

Bold type indicates grade level fluency requirements. *(Identified by PARCC Model Content Frameworks).*

Major Content Supporting Content Additional Content (Identified by PARCC Model Content Frameworks).

ALPHA BORO PUBLIC SCHOOL

CONTENT AREA: Mathematics	GRADE: 3	UNIT: # 3	UNIT NAME: Solve Problems Involving the Four Operations & Understand Fractions as Numbers on the Number Line

Selected Opportunities for Connection to Mathematical Practices

1. Make sense of problems and persevere in solving them.

2. **Reason abstractly and quantitatively.**
   SLO #1 Use quantitative reasoning to create a coherent representation of time and time intervals in order to solve problems regarding time.
   SLO #3 Understand and make sense of fraction quantities and their relationship to whole numbers.
   SLO #4 Understand and make sense of fraction quantities in terms of whole shapes.
   SLO #5 Understand and make sense of fraction units as quantities on a number line.

3. **Construct viable arguments and critique the reasoning of others.**
   SLO #1 Use and apply previously stated definitions and assumptions about time to tell, write, and solve word problems involving intervals of minutes on a clock.
   SLO #3 Understand and use stated assumptions and definitions to interpret fractions as parts of wholes.

4. **Model with mathematics.**
   SLO #1 Apply previously learned concepts about time and time intervals to solve word problems involving addition and subtraction of time intervals.
   SLO #2 Apply previously learned concepts about measurement to solve 1-step word problems involving comparing liquid volumes & masses.
   SLO #8 Apply previously learned concepts regarding all four operations to find the unknown value in an equation expressed as a 2-step word problem.

5. **Use appropriate tools strategically.**
   SLO #2 Consider and use available tools, such as drawings, diagrams, and beakers, appropriately when solving word problems comparing liquid volume and mass.
   SLO #5 Consider and use available tools, such as drawings and the number line, when solving problems involving the number line and fraction units.
   SLO #6 Consider and use available tools, such as drawings and the number line, when depicting a fraction.

6. **Attend to precision.**
   SLO #2 Specify units of measurement appropriate to the problem.

7. **Look for and make use of structure.**
   SLO #7 Look for and discern patterns between multiplication and division to fluently solve multiplication and division problems.

8. **Look for and express regularity in repeated reasoning.**
   SLO #8 Evaluate the reasonableness of results from equations derived from two-step word problems.

ALPHA BORO PUBLIC SCHOOL

CONTENT AREA: Mathematics	GRADE: 3	UNIT: # 3	UNIT NAME: Solve Problems Involving the Four Operations & Understand Fractions as Numbers on the Number Line

Code #	Common Core State Standards
3.OA.7	**Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 x 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations.**
3.OA.8	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
3.NF.1	Understand a fraction **1/b** as the quantity formed by 1 part when a whole is partitioned into **b** equal parts; understand a fraction **a/b** as the quantity formed by **a** parts of size **1/b**.
3.NF.2	Understand a fraction as a number on the number line; represent fractions on a number line diagram. a) Represent a fraction **1/b** on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into **b** equal parts. Recognize that each part has size **1/b** and that the endpoint of the part based at 0 locates the number **1/b** on the number line. b) Represent a fraction **a/b** on a number line diagram by marking off **a** lengths **1/b** from 0. Recognize that the resulting interval has size **a/b** and that its endpoint locates the number **a/b** on the number line.
3.MD.1	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.
3.MD.2	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as beaker with a measurement scale) to represent the problem.
3.G.2	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. **For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.**

Major Content Supporting Content Additional Content (Identified by PARCC Model Content Frameworks).

Bold type indicates grade level fluency requirements. (Identified by PARCC Model Content Frameworks).

ALPHA BORO PUBLIC SCHOOL

CONTENT AREA: Mathematics	GRADE: 3	UNIT: # 4	UNIT NAME: Build Equivalent Fractions & Compare Fractions and Apply to Measurement Qualities

#	STUDENT LEARNING OBJECTIVES	CORRESPONDING CCSS
1	Locate equivalent (equal) fractions on a number line (with dominators 2, 3, 4, 6, 8).	3.NF.3a
2	Generate and explain equivalent fractions using visual fraction models, e.g., interpret 1/4 of a group of 12 pennies as 3 pennies: ℗ ℗ ℗ ℗ ℗ ℗ ℗ ℗ ℗ ℗ ℗ ℗ (see the 4 equal sub-groups as fourths).	3.NF.3b
3	Generate and explain whole numbers as fractions, and locate them as fractions on a number line.	3.NF.3c
4	Compare two fractions with the same numerator or the same denominator using the symbols >, =, <.	3.NF.3d
5	Find the area of a plane figure understanding that unit squares are used to measure area of a rectilinear drawing.	3.MD.5a,b
6	**Fluently multiply and divide within 50, using the relationship between multiplication and division.**	**3.OA.7**

Major Content Supporting Content **Additional Content** (Identified by PARCC Model Content Frameworks).

Bold type indicates grade level fluency requirements. *(Identified by PARCC Model Content Frameworks).*

ALPHA BORO PUBLIC SCHOOL

CONTENT AREA: Mathematics	GRADE: 3	UNIT: # 4	UNIT NAME: Build Equivalent Fractions & Compare Fractions and Apply to Measurement Qualities

Selected Opportunities for Connection to Mathematical Practices

1. **Make sense of problems and persevere in solving them.**

    SLO #3 Analyze the relationship between whole numbers and whole numbers as fractions.

    SLO #4 Analyze the relationship among two fractions with the same numerator or denominator in order to compare them.

    SLO #5 Understand and make sense of quantities and their relationship to the area of a plane figure.

2. **Reason abstractly and quantitatively.**

    SLO #2 Understand and make sense of fraction quantities in order to use and interpret visual fraction models.

    SLO #3 Understand and make sense of whole numbers as fractions and the quantities they represent in order to place them on a number line.

    SLO # 4 Understand and make sense of fraction quantities with either the same denominator or numerator in order to compare them.

3. **Construct viable arguments and critique the reasoning of others.**

    SLO #3 Justify and explain conclusions regarding whole numbers as fractions and where they are located on the number line.

4. Model with mathematics.

5. **Use appropriate tools strategically.**

    SLO #1 Consider and use appropriate tools, such as drawings and the number line, when solving problems involving fractions equivalents and the number line.

    SLO #2 Consider and use appropriate tools, such as visual models, diagrams, and drawings, when solving problems involving visual fraction models and equivalent fractions.

    SLO #3 Consider and use appropriate tools, such as drawings and the number line, when generating and locating whole numbers as fraction on the number line.

6. **Attend to precision.**

    SLO #2 Communicate and explain precisely equivalent fractions using visual fraction models.

    SLO #4 State and understand the meaning of the symbols <, >, = symbols when comparing two fractions.

7. **Look for and make use of structure.**

    SLO #6 Look for and discern patterns between multiplication and division.

8. Look for and express regularity in repeated reasoning.

Bold type identifies possible starting points for connections to the SLOs in this unit.

ALPHA BORO PUBLIC SCHOOL

CONTENT AREA: Mathematics	GRADE: 3	UNIT: # 4	UNIT NAME: Build Equivalent Fractions & Compare Fractions and Apply to Measurement Qualities

Code #	Common Core State Standards
3.OA.7	Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations.
3.NF.3a	By the end of Grade 3, know from memory all products of two one-digit numbers.
3.NF.3a	Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
3.NF.3b	Recognize and generate simple equivalent fractions, **e.g.**, 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, **e.g.**, by using a visual fraction model.
3.NF.3c	Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.
3.NF.3d	Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, <, and justify the conclusions, e.g., by using a visual fraction model.
3.MD.5a	Recognize area as an attribute of plane figures and understand concepts of area measurement. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.
3.MD.5b	A plane figure can be covered without gaps or overlaps by n squares is said to have an area of n square units.

Major Content Supporting Content **Additional Content** (Identified by PARCC Model Content Frameworks).
Bold type indicates grade level fluency requirements. (Identified by PARCC Model Content Frameworks).

ALPHA BORO PUBLIC SCHOOL

CONTENT AREA: Mathematics	GRADE: 3	UNIT: # 5	UNIT NAME: Represent and Solve Problems Involving Multiplication and Division

#	STUDENT LEARNING OBJECTIVES	CORRESPONDING CCSS
1	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	3.G.1
2	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	3.MD.8
3	Find the area of a rectangular array by counting the number of square units and compare that number with the product of the (whole number) side lengths.	3.MD.6 3.MD.7a
4	Create and interpret a scaled picture (or bar) graph to represent data in 1- or 2-stp word problems.	3.MD.3
5	Depict data measured in fourths and halves of an inch with a line plot with scales marked with appropriate units.	3.MD.4
6	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	3.NBT.2
7	Fluently multiply and divide within 100, using the relationship between multiplication and division.	3.OA.7

Repeated Standards	
SLO #7 is MASTERY for benchmark standard **3.NBT.2**: **Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and the relationship between addition and subtraction.**	
SLO #8 is MASTERY for benchmark standard **3.OA.7**: **Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. Know from memory all products of two 1-digit numbers.**	

Major Content **Supporting Content** **Additional Content** (Identified by PARCC Model Content Frameworks).
Bold type indicates grade level fluency requirements. (Identified by PARCC Model Content Frameworks).

ALPHA BORO PUBLIC SCHOOL

CONTENT AREA: Mathematics	GRADE: 3	UNIT: # 5	UNIT NAME: Represent and Solve Problems Involving Multiplication and Division

Selected Opportunities for Connection to Mathematical Practices

1. **Make sense of problems and persevere in solving them.**
   SLO #1 Use concrete objects or pictures to help conceptualize and understand similar and dissimilar attributes of shapes.
   SLO #4 Interpret graphed data represented in 1- or 2-step word problems.
   SLO #4 Use concrete pictures to help conceptualize data represented by a 1- or 2-step word problem.
   SLO #5 Graph and plot data to depict measurements in fourths and halves of inches.

2. **Reason abstractly and quantitatively.**
   SLO #1 Know and use flexibly the different properties of objects to understand the attributes of shapes.
   SLO #2 Use quantitative reasoning that entails a coherent representation of polygons in order to find the perimeter.
   SLO #2 Know and use flexibly the different properties of operations in order to find the perimeter of polygons.
   SLO #5 Make sense of quantities measured in fractions of an inch and understand the relationship to data on a line plot.

3. **Construct viable arguments and critique the reasoning of others.**
   SLO #1 Understand the assumptions and definitions regarding different attributes and categories of shapes.

4. **Model with mathematics.**
   SLO #2 Use and apply previously learned concepts about the properties of operations to solve perimeter problems.
   SLO #4 Apply previously learned concepts about representing data to create and interpret data represented in word problems.
   SLO #5 Apply previously learned concepts about fractions to depict data measured in fractions and plotted on a line.

5. Use appropriate tools strategically.

6. **Attend to precision.**
   SLO #4 Communicate and precisely explain whole numbers as fractions and where they are located on the number line.
   SLO # 5 Specify units of measure on a plotted line and clarify the correspondence of the depicted data with quantities.

7. **Look for and make use of structure.**
   SLO #1 Look for and discern a structure based on different shapes attributes.
   SLO #3 Understand that knowing 8 × 5 = 40, then one also knows that 40 ÷ 5 = 8.
   SLO #5 Look for and discern patterns between multiplication and division.
   SLO #6 Look for and discern a pattern when adding or subtracting within 1000.
   SLO #7 Look for and discern a pattern when multiply or dividing within 100.

8. Look for and express regularity in repeated reasoning.

ALPHA BORO PUBLIC SCHOOL

CONTENT AREA: Mathematics	GRADE: 3	UNIT: # 5	UNIT NAME: Represent and Solve Problems Involving Multiplication and Division

Code #	Common Core State Standards
3.OA.7	**Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. Know from memory all products of two 1-digit numbers.**
3.NBT.2	**Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.**
3.MD.3	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*
3.MD.4	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units -- whole numbers, halves, or quarters.
3.MD.6	Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).
3.MD.7a	Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.
3.MD.8	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
3.G.1	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

Major Content Supporting Content Additional Content (Identified by PARCC Model Content Frameworks).

Bold type indicates grade level fluency requirements. *(Identified by PARCC Model Content Frameworks).*