Grade 3 **Key Areas of Focus for Grades 3-5**: Multiplication and division of whole numbers and fractions-concepts, skills and problem solving							
Expected Fluency: Multiply and divide within 100. Add and subtract within 100.							
Module	**M1:** Multiplication and Division with Factors of 2, 3, 4, 5, and 10	**M2:** Problem Solving with Mass, Time, and Capacity	**M3**: Multiplication and Division with Factors of 6, 7, 8, and 9	**M4:** Multiplication and Area	**M5:** Fractions as Numbers on the Number Line	**M6:** Collecting and Displaying Data	**M7:** Word Problems with Geometry and Measurement
Duration	Quarter 1	Quarter 1	Quarter 2	Quarter 2	Quarter 3	Quarter 3	Quarter 4
Standards	3.OA.1* 3.OA.2* 3.OA.3* 3.OA.4* 3.OA.5* 3.OA.6* 3.OA.7* 3.OA.8*	3.NBT.1 3.NBT.2 3.MD.1* 3.MD.2*	3.OA.1* 3.OA.2* 3.OA.3* 3.OA.4* 3.OA.5* 3.OA.6* 3.OA.7* 3.OA.8* 3.OA.9* 3.NBT.3	3.MD.5* 3.MD.6* 3.MD.7*	3.NF.1* 3.NF.2* 3.NF.3 3.G.2	3.MD.3 3.MD.4	3.MD.4 3.MD.8 3.G.1
Instructional Strategies	Use the math workshop model and centers. Each module should be approached from by understanding the students' baseline first and then developing and selecting, engaging and hand-on activities to build deep understanding at developmentally appropriate levels. Where possible, provide models and visuals for students. Communicate with students using student friendly iCan statements developed and or adopted by the grade-level team. Include kinesthetic activities to deepen understanding while adding movement and play into the learning						
Assessment Formative	Daily, ongoing formative assessment strategies included in each module (ex. Activities, exit tickets, Practice, Online learning, etc.)						
Assessment Interim	A Mid-Module assessment Task is provided for each module to address the first half of the student outcomes for each module An End of the Module Assessment Task is provided to address the student outcomes for the module as a whole						

Assessment Summative	Cross-Modular Assessment Tasks are provided periodically after multiple modules to address standards from several modules and to ensure that students are making important connections across major topics within this grade.

Color Key

GEOMETRY	NUMBER	NUMBER AND GEOMETRY, MEASUREMENT	FRACTIONS

Module 1

Essential Questions

How do repeated addition, arrays, and sets help in understanding multiplication?
How do repeated subtraction, equal shares, and equal groups help in understanding division?
What is the relationship between multiplication and division?

Enduring Understandings

Students will build a foundational understanding of multiplication and division to allow them to solve more complex, real-world problems. Students will be able to show and explain their thinking using models, drawings, and words.

I Can Statements (Adapted from www.thecurriculumcorner.com)

I Can Use Multiplication and Division to Help Me Understand Math

- I can understand multiplication by thinking about groups of objects.
- I can understand division by thinking about how one group can be divided into smaller groups.
- I can use what I know about multiplication and division to solve word problems.
- I can find the missing number in a multiplication or division equation.
- I can use the Commutative property of multiplication. (I know that if 6 x 4 = 24, then 4 x 6 = 24.)
- I can use the Associative property of multiplication. (To figure out 3 x 5 x 2 I can multiply 3 x 5 = 15, then 15 x 2 = 30 OR multiply 5 x 2 = 10, then 3 x 10 = 30.)
- I can use the Distributive property of multiplication. (To figure out 8 x 7, I can think of 8 x (5 + 2) which means (8 x 5) + (8 x 2) = 40 + 16 = 56.)
- I can find the answer to a division problem by thinking of the missing factor in a multiplication problem. (I can figure out 32 ? 8 because I know that 8 x 4 = 32.)
- I can multiply and divide within 100 easily and quickly because I know how multiplication and division are related. 3.OA.7
- I can use addition, subtraction, multiplication and division to solve all kinds of word problems and then use mental math to decide if my answers are reasonable.

Module 1: Multiplication and Division with Factors of 2, 3, 4, 5, and 10

Represent and solve problems involving multiplication and division.*

3.OA.1 Interpret products of whole numbers, e.g., interpret 5 x 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 x 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 objects 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.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.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 x ? = 48, 5 = _ ÷ 3, 6 x 6 = ?*

Understand properties of multiplication and the relationship between multiplication and division.*

3.OA.5 Apply properties of operations as strategies to multiply and divide. (Students need not use formal terms for these properties.)
Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. *(Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)*

3.OA.6 Understand division as an unknownfactor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when m ultiplied by 8.*

Multiply and divide within 100.*

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. By the end of Grade 3, know from memory all products

of two one-digit numbers.

Solve problems involving the four operations, and identify and explain patterns in arithmetic.*

3.OA.8 Solve twostep 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 ro unding. (This standard is limited to problems posed with whole numbers and having wholenumber answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order, i.e., Order of Operations.)

Module 2
Essential Questions

How is a clock like a number line?
How can an open number line help me measure time?
How can rounding and estimation help when solving problems?

Enduring Understandings

Students will read and write time to the nearest minute. They will learn to add and subtract time intervals in minutes to solve elapsed time word problems and model their solutions using clock models and number lines. Students will learn to round numbers and estimate to solve problems.

I Can Statements (Adapted from www.thecurriculumcorner.com)

I Can Use Number Sense and Place Value to Help Me Understand Math

- I can round numbers to the nearest ten or 100.

I Can Use Measurement and Data to Help Me Understand Math

- I can tell and write time to the nearest minute.
- I can measure time in minutes.
- I can solve telling time word problems by adding and subtracting minutes.
- I can create a picture or bar graph to show data and solve problems using the information from the graphs.

Module 2: Problem Solving with Mass, Time, and Capacity

Use place value understanding and properties of operations to perform multidigit arithmetic. (A range of algorithms **may be used.)**

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.

Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects. *

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).(Excludes compound units such as cm^3 and finding the geometric volume of a container.) 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 a beaker with a measurement scale) to represent the problem.

Module 3
Essential Questions

How do repeated addition, arrays, and sets help in understanding multiplication?
How do repeated subtraction, equal shares, and equal groups help in understanding division?
What is the relationship between multiplication and division?

Enduring Understandings

Students will build a foundational understanding of multiplication and division to allow them to solve more complex, real-world problems. Students will be able to show and explain their thinking using models, drawings, and words.

I Can Statements (Adapted from www.thecurriculumcorner.com)

I Can Use Multiplication and Division to Help Me Understand Math

- I can use what I know about multiplication and division to solve word problems.
- I can find the missing number in a multiplication or division equation.
- I can use the Commutative property of multiplication. (I know that if 6 x 4 = 24, then 4 x 6 = 24.)
- I can use the Associative property of multiplication. (To figure out 3 x 5 x 2 I can multiply 3 x 5 = 15, then 15 x 2 = 30 OR multiply 5 x 2 = 10, then 3 x 10 = 30.)
- I can use the Distributive property of multiplication. (To figure out 8 x 7, I can think of 8 x (5 + 2) which means (8 x 5) + (8 x 2) = 40 + 16 = 56.)
- I can find the answer to a division problem by thinking of the missing factor in a multiplication problem. (I can figure out 32 ? 8 because I know that 8 x 4 = 32.)
- I can multiply and divide within 100 easily and quickly because I know how multiplication and division are related.
- I can use addition, subtraction, multiplication and division to solve all kinds of word problems and then use mental math to decide if my answers are reasonable.
- I can find patterns in addition and multiplication tables and explain them using what I know about how numbers work.

I Can Use Number Sense and Place Value to Help Me Understand Math

- I can quickly and easily multiply any one digit whole number by 10.

Module 3: Multiplication and Division with Factors of 6, 7, 8, and 9

Represent and solve problems involving multiplication and division. *

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.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 x ? = 48, 5 =___÷ 3, 6 x 6 = ?*

Understand properties of multiplication and the relationship between multiplication and division. *

3.OA.5 Apply properties of operations as strategies to multiply and divide. (Students need not use formal terms for these properties.) *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)*

Multiply and divide within 100.*

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. By the end of Grade 3, know from memory all products of two one-digit numbers.

Solve problems involving the four operations, and identify and explain patterns in arithmetic.*

3.OA.8 Solve twostep 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. (This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order, i.e., Order 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.*
Use place value understanding and properties of operations to perform multi-digit arithmetic. (A range of algorithms may be used.)

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.

Module 4
Essential Questions
What is area?
What is perimeter?
How do area and perimeter relate to each other?

Enduring Understandings
Students utilize various models to understand the foundational levels of area and perimeter.

I Can Statements (Adapted from www.thecurriculumcorner.com)

I Can Use Measurement and Data to Help Me Understand Math

- I can understand that the area of plane shapes can be measured in square units. 3.MD.5
- I can measure areas by counting unit squares. 3.MD.6
- I can measure area by using what I know about multiplication and addition. 3.MD.7
- I can solve real world math problems using what I know about the perimeter of shapes. 3.MD.8

Module 4: Multiplication and Area

Geometric measurement: understand concepts of area and relate area to multiplication and to addition. *

3.MD.5 Recognize area as an attribute of plane figures and understand concepts of area measurement.

a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.

b. A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units.

3.MD.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).

3.MD.7 Relate area to the operations of multiplication and addition.

a. Find the area of a rectangle with whole number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.

b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.

c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.

d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.

Module 5

Essential Questions

Why are fractions important?
When and why would should things be divided equally?
What are some ways objects can be partitioned into equal parts?
How can fractions be represented on a number line?
How does a 0 relate to fractions and number lines?

Enduring Understandings

Students will demonstrate understanding of fraction relationships by representing fractions in linear models
Students understand that the size of a fractional part is relative to the size of the whole. Students are able to use fractions to represent numbers equal to, less than, and greater than one. They solve problems that involve comparing fractions by using visual fraction models and strategies based on noticing equal numerators or denominators.

I Can Statements (Adapted from www.thecurriculumcorner.com)

I Can Use Geometry to Help Me Understand Math

- I can divide shapes into parts with equal areas and show those areas as fractions. 3.G.2

I Can Use Fractions to Help Me Understand Math

- I can show and understand that fractions are equal parts of a whole. 3.NF.1
- I can label fractions on a number line because I know the space between any two numbers can be thought of as a whole. 3.NF.2
- I can explain in words or pictures how two fractions can sometimes be equal. 3.NF.3
- I can compare fractions by reasoning about their size. 3.NF.3
- I can show whole numbers as fractions. (3 = 3/1) 3.NF.3
- I can recognize fractions that are equal to one whole. (1 = 4/4) 3.NF.3

Module 5: Fractions as Numbers on the Number Line

Develop understanding of fractions as numbers. (Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.) *

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 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.NF.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.

b. 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.

c. 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*.

d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

Reason with shapes and their attributes.

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 ¼ of the area of the shape.

Module 6
Essential Questions

How can bar graphs be used to help solve problems?

How do you represent measurement data on line plots to solve problems?

Enduring Understandings

Students will learn how to collect and represent data. Students will use data representations to solve problems.

I Can Statements (Adapted from www.thecurriculumcorner.com)

I Can Use Measurement and Data to Help Me Understand Math

- I can create a picture or bar graph to show data and solve problems using the information from the graphs. 3.MD.3
- I can create a line plot from measurement data, where the measured objects have been measured to the nearest whole number, half or quarter. 3.MD.4

Module 6: Collecting and Displaying Data

Represent and interpret data.

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.

Module 7
Essential Questions

What is area?
What is perimeter?
How do area and perimeter relate to each other?

Enduring Understandings

Students utilize various models to understand the foundational levels of area and perimeter. Students will use their understanding of geometry and measurement data to solve authentic, real-world problems.

I Can Statements (Adapted from www.thecurriculumcorner.com)

I Can Use Measurement and Data to Help Me Understand Math

- I can create a line plot from measurement data, where the measured objects have been measured to the nearest whole number, half or quarter.
- I can solve real world math problems using what I know about the perimeter of shapes.

I Can Use Geometry to Help Me Understand Math

- I can place shapes into categories depending upon their attributes.
- I can recognize and draw quadrilaterals such as rhombuses, rectangles and squares, as well as other examples of quadrilaterals.

Module 7: Word Problems with Geometry and Measurement

Represent and interpret data.

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.

Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

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 sa me area and different perimeters.

Reason with shapes and their attributes.

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 Clusters are denoted with *
(Areas of intense focus, where students need fluent understanding and application of core concepts)

Primary Resources
1. Eureka Math Program
2. Context for Learning
3. Math Workshop Model
4. Do the Math
5. TenMarks

Essential Questions Defined:
Essential questions are broad concepts asked in question form. They help guide the teacher in teaching the unit and designing their lesson plan. We use the following five essential questions with all of our units, in all of our grades, across all of our subjects (Adapted from Rick DuFour)
1. What do students need to know and be able to do?
2. How will we teach them?
3. How will we know if they know and are able to do?
4. What will we do if they don't?
5. What will we do if they already know and are able to do prior to a lesson or unit beginning?

Enduring Understandings Defined:
Enduring understandings are statements that capture the important ideas that can be transferred to learning and doing beyond the classroom (Adapted from Grant Wiggins and Jay McTighe, Understanding by Design).