

Grade: 3	Course: Math
Pacing: 8 weeks	
Unit 1: Number & Operations - Addition & Multiplication	Big Idea: Chapter 1: Addition and Subtraction Strategies Chapter 2: Understand Multiplication Chapter 3: Multiplication Facts and Strategies Chapter 4: Multiplication with Multiples of 10 and 100
<i>Content Area NJSLS Performance Expectations Addressed</i>	<i>Interdisciplinary Connections</i>
<ul style="list-style-type: none"> • 3.OA.A.1 Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. <i>For example, describe and/or represent a context in which a total number of objects can be expressed as 5×7.</i> • 3.OA.A.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.A.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. <i>For example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48$, $5 = ? \div 3$, $6 \times 6 = ?$.</i> • 3.OA.B.5 Apply properties of operations as strategies to multiply and divide.2 Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and 8×2 • 3.OA.C.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. 	English Language Arts <ul style="list-style-type: none"> • RI.MF.3.6. Use information gained from text features (e.g., illustrations, maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur). • SL.PE.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly. • L.VL.3.4. Determine or clarify the meaning of unknown and multiple-meaning academic and domain-specific words and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies. Science <ul style="list-style-type: none"> • 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

<ul style="list-style-type: none"> • 3.OA.D.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.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. • 3.NBT.A.1 Round whole numbers to the nearest 10 or 100. • 3.NBT.A.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.A.3 Multiply one-digit whole numbers by multiples of 10 in the range 10 to 90 (e.g., 9×80, 5×60) using strategies based on place value and properties of operations. <p>Standards for Mathematical Practice</p> <ul style="list-style-type: none"> • MP.1 Make sense of problems and persevere in solving them. • MP.2 Reason abstractly and quantitatively. • MP.3 Construct viable arguments and critique the reasoning of others. • MP.4 Model with mathematics. • MP.5 Use appropriate tools strategically. • MP.6 Attend to precision. • MP.7 Look for and make use of structure. 	
<i>Computer Science and Design Thinking</i>	<i>Career Readiness, Life Literacies, and Key Skills</i>
<ul style="list-style-type: none"> • 8.2.5.ED.3: Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task. • 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim. 	<p>21st Century Skills</p> <ul style="list-style-type: none"> • 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g., 4.DL.B.5, 8.1.5.DA.3). • 9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data.

- 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
- 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).

Technology

- 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.

Career Readiness, Life Literacies, and Key Skills Practices:

- Use technology to enhance productivity, increase collaboration and communicate effectively.
- Utilize critical thinking to make sense of problems and persevere in solving them.

Student Learning Objectives (SLO)

Students will be able to...

- interpret products of whole numbers as a total number of objects.
- identify and describe whole number patterns and solve problems
- round 2- and 3-digit numbers to the nearest ten or hundred
- use compatible numbers and rounding to estimate sums and differences
- use a variety of strategies to find sums and differences mentally
- use the Commutative and Associative Properties of Addition to add more than two addends
- use a variety of strategies to add and subtract 3-digit numbers
- solve addition and subtraction problems by using the strategy draw a diagram
- describe a context in which a total number of objects is represented by a product.
- interpret the product in the context of a real-world problem.
- use repeated subtraction to find the number of shares or the number of groups and compare to the result of division.
- describe a context in which the number of shares or number of groups is represented with division.
- interpret the quotient in the context of a real-world problem.
- multiply to solve word problems involving equal groups and arrays.
- divide to solve word problems involving equal groups and arrays.

- represent a word problem with a drawing showing equal groups, arrays, equal shares, and/or total objects.
- represent a word problem with an equation.
- determine which operation is needed to find the unknown.
- multiply or divide, within 100, to find the unknown whole number in a multiplication or division equation.
- write division number sentences as unknown factor problems.
- solve division of whole numbers by finding the unknown factor.
- count unit squares in order to measure the area of a figure.
- use unit squares of centimeters, meters, inches, feet, and other units to measure area.
- tile a rectangle with unit squares.
- multiply side lengths of a rectangle to find its area and compare the result to that found by tiling the rectangle with unit squares.
- solve real world and mathematical problems involving measurement.
- represent a rectangular area as the product of whole-numbers.
- use number lines and a hundreds charts to explain rounding numbers to the nearest 10 and 100.
- round a whole number to the nearest 10.
- round a whole number to the nearest 100.
- multiply to determine the total number of groups of ten.
- multiply one-digit whole numbers by multiples of 10.

Academic Vocabulary

Repeated addition, Product, Multiply, Sum, Difference, Product, Factor, Commutative, Associative, Array

Essential Questions

- How can you use properties to explain patterns on the addition table?
- How can you round numbers?
- How can you use compatible numbers and rounding to estimate sums?
- What mental math strategies can you use to find sums?
- How can you use the break apart strategy to add 3- digit numbers?
- How can you use place value to add 3-digit numbers?

Enduring Understandings

- The properties of addition, such as the Commutative Property (the order of adding doesn't change the sum) and the Associative Property (grouping numbers differently doesn't change the sum), help one recognize patterns in the addition table.
- Rounding helps simplify numbers by finding the nearest ten, hundred, or other place value.

- How can you use compatible numbers and rounding to estimate differences?
- What mental math strategies can you use to find differences?
- How can you use place value to subtract 3-digit numbers?
- How can you use the combine place values strategy to subtract 3-digit numbers?
- How can you use the strategy draw a diagram to solve one- and two-step addition and subtraction problems?
- How can you use equal groups to find how many in all?
- How is multiplication like addition? How is it different?
- How can you use arrays to model multiplication and find factors?
- How can you use the Commutative Property of Multiplication to find products?
- What happens when you multiply a number by 0 or 1?
- How can you multiply with 2 and 4?
- How can you multiply with 5 and 10?
- What are some ways to multiply with 3 and 6?
- How can you use the Distributive Property to find products?
- What strategies can you use to multiply with 7?
- How can you use the Associative Property of Multiplication to find products?
- How can you use properties to explain patterns on the multiplication table?
- What strategies can you use to multiply by 8?
- What strategies can you use to multiply with 9?
- How can you use the strategy make a table to solve multiplication problems?
- How can you use an array or a multiplication table to find an unknown factor or product?
- What strategies can you use to multiply with multiples of 10?

- Compatible numbers and rounding allow students to estimate sums by choosing numbers that are easy to work with, making mental math faster and simpler.
- Mental math strategies, such as counting on, making tens, or using doubles, help to quickly add numbers mentally.
- The break-apart strategy involves breaking a 3-digit number into hundreds, tens, and ones, making the addition easier.
- By using place value, students can add 3-digit numbers by focusing on the hundreds, tens, and ones separately.
- Compatible numbers and rounding help estimate differences by adjusting numbers to make them easier to subtract.
- Mental math strategies for subtraction, such as counting up, using number lines, or breaking numbers apart, allow one to find differences quickly without needing paper and pencil.
- Subtracting 3-digit numbers using place value involves subtracting hundreds, tens, and ones separately, which helps break down the problem into smaller, manageable parts.
- The combine place values strategy involves combining like place values (hundreds, tens, ones) when subtracting 3-digit numbers.
- Drawing diagrams, such as number lines, bar models, or pictures, helps students visualize the relationship between numbers in addition, subtraction and multiplication problems.
- Using equal groups models multiplication as repeated addition.
- Multiplication is related to addition because both involve combining groups of numbers.
- Multiplication is different because it involves repeated addition of the same number, making it faster and more efficient for larger numbers.
- Arrays help students visualize multiplication by organizing objects into rows and columns.
- The Commutative Property of Multiplication states that the order of the numbers doesn't affect the product (e.g., $3 \times 4 = 4 \times 3$).

	<ul style="list-style-type: none"> • Multiplying any number by 0 results in 0, and multiplying by 1 keeps the number unchanged. • Multiplying by 2 is the same as doubling a number, and multiplying by 4 is like doubling a number twice. • Multiplying by 5 is like finding half of a number and then multiplying by 10, which is simply adding a zero to the number. • Multiplying by 3 can be thought of as adding a number three times, and multiplying by 6 is like multiplying by 3 and doubling the result. • The Distributive Property allows students to break a multiplication problem into smaller parts. • Multiplying by 7 can be approached by using known multiplication facts (such as 7×2) and adding them together. • The Associative Property of Multiplication states that the way numbers are grouped doesn't affect the product (e.g., $(2 \times 3) \times 4 = 2 \times (3 \times 4)$). • Properties like the Commutative, Associative, and Distributive Properties help explain and predict patterns on the multiplication table. • Multiplying by 8 can be thought of as doubling a number three times or using known multiplication facts like 4×8 and doubling it. • Multiplying by 9 can be made easier by using the fact that $9 \times n$ is the same as $(10 \times n) - n$. • Making a table helps students organize multiplication facts and find patterns. • Arrays and multiplication tables visually organize factors and products, making it easier for students to find missing factors or products. • Multiplying by multiples of 10 involves recognizing patterns such as adding a zero to the number.
<i>Core Instruction/Supplemental Materials</i>	<i>Assessments</i>
<ul style="list-style-type: none"> • Go Math digital resources on HMH platform 	Formative

- Interactive Student Journal
- Student Journal from Go Math
- Reteach and Enrich resources from Go Math
- Vocabulary Cards
- “Math on the Spot” videos through HMH Go Math
- iTools from HMH Go Math
- HMH Go Math Supplemental Slides
- Math Readers from Go Math
- Boddle Math
- SumDog
- Prodigy
- Kahoot
- Quizizz
- Kahn Academy
- iReady Learning Path and Lessons materials
- Newspaper hunt to find numbers at least 6 digits long to write in each form
- Find estimated amounts in new stories, on the Internet, in newspapers, or magazines
- Round multidigit numbers to specific place values in a Rounding Rodeo
- View Math Antics videos for rounding, division, and multiplication
- Play Round and Roll game
- Play Rounding Numbers Pirate game on MathPlayground.com
- Teacher Created Materials
- [3.OA.A.3 Two Interpretations of Division](#)
- [3.OA.B.5 Valid Equalities? \(Part 2\)](#)
- [3.M.B.5 Introducing the Distributive Property](#)
- [3.OA.C.7 Kiri's Multiplication Matching Game](#)
- [3.OA.D.8 The Class Trip](#)
- [3.OA.D.9 Addition Patterns](#)
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- Social Emotional Learning: Math Reader - “Multiplying a Good Deed” by Caroline Ross.

- Oral assessment
- Exit tickets
- Quizzes
- Journals
- Graphic Organizers
- Class discussion
- Interactive online games
- Teacher observation
- Classwork Practice
- Discussion Trifolds
- Video logs
- Show What you Know
- Lesson Quick Checks
- Share and Show
- Mid Chapter Checkpoints
- Practice and Homework pages

Summative

- Tests
- Skills assessment/Benchmarks

Alternative

- Centers/activities/games
- Performance assessments
- Projects

<ul style="list-style-type: none"> • Diversity, Equity and Inclusion: Math Reader - “It’s All About Order” by J. K. Schmauss 	
<i>Modifications/Differentiated Activities</i>	
<p>Enrichment/Gifted and Talented</p> <ul style="list-style-type: none"> • Differentiated curriculum for the gifted learner. • Regular classroom curricula and instruction that is adapted, modified, or replaced. • Educational opportunities consisting of a continuum of differentiated curricular options, instructional approaches and materials. • Integrated G&T programming into the general education school day. • Flexible groupings of students to facilitate differentiated instruction and curriculum. <p>Learning Environments:</p> <ul style="list-style-type: none"> • Extensive outside reading • Active classroom discussion • Innovative oral and written presentations • Deductive and inductive reasoning • Independent writing and research • Divergent thinking • Challenging problem solving situations • Interactive, independent and interdisciplinary activities 	<p>Multilingual Learners</p> <ul style="list-style-type: none"> • Alternate Responses • Notes in Advance • Extended Time • Simplified Instruction (written and verbal) • Online Dictionary • Use lots of visuals • Use physical activity; model, role-play • Repeat/Rephrase often • Use lower level materials when appropriate
<p>Special Education</p> <p>GENERAL MODIFICATIONS:</p> <ul style="list-style-type: none"> • Allow outlining, instead of writing for an essay or major project • Computerized spell-check support • Word bank of choices for answers to test questions • Provision of calculator and/or number line for math tests • Film or video supplements in place of reading text • Reworded questions in simpler language • Projects instead of written reports • Highlighting important words or phrases in reading assignments 	<p>At Risk (Intervention)</p> <ul style="list-style-type: none"> • Maximize use of community resources • Connect family to school and school activities • Support through transition • Help develop compensating strategies • Increase opportunity for positive peer group influences • Supplemental courses • Placement in small and interactive groups

<ul style="list-style-type: none"> • Modified workload or length of assignments/tests • Modified time demands • Pass/no pass option • Modified grades based on IEP <p>BEHAVIOR MODIFICATIONS:</p> <ul style="list-style-type: none"> • Breaks between tasks • Cue expected behavior • Daily feedback to student • Use de-escalation strategies • Use positive reinforcement • Use proximity/touch control • Use peer supports and mentoring • Model expected behavior by adults • Have parent sign homework/behavior chart • Set and post class rules • Chart progress and maintain data 	
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Grade: 3	Course: Math
Pacing - 10 weeks	

Unit: 2 - Understanding Division; Application of Division and Multiplication; Strategies for Area and Perimeter	Big Idea: Chapter 5 - Understand Division Chapter 6 - Division Facts and Strategies Chapter 7 - Apply Multiplication and Division Chapter 8 - Relate Multiplication and Area Chapter 9 - Understand Perimeter
Content Area NJSLS Performance Expectations Addressed	Interdisciplinary Connections
<ul style="list-style-type: none"> • 3.OA.A.2 Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ 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. • 3.OA.A.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.B.5 Apply properties of operations as strategies to multiply and divide. <i>Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)</i> (Clarification: Students need not use formal terms for these properties.) • 3.M.B.5 Relate area to the operations of multiplication and addition. <ol style="list-style-type: none"> a. 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. b. 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. 	English Language Arts <ul style="list-style-type: none"> • RI.CR.3.1. Ask and answer questions and make relevant connections to demonstrate understanding of an informational text, referring explicitly to textual evidence as the basis for the answers. • SL.PE.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly. • L.VL.3.4. Determine or clarify the meaning of unknown and multiple-meaning academic and domain-specific words and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies. Science <ul style="list-style-type: none"> • 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

- 3.OA.C.7 With accuracy and efficiency, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
- 3.OA.D.8 Solve two-step word problems, including problems involving money, 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.
(Clarification: 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)(Order of Operations)
- 3.OA.A.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 and/or represent a context in which a total number of objects can be expressed as 5×7 .*
- 3.OA.A.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 $8 \times ? = 48$, $5 = ? \div 3$, $6 \times 6 = ?$.*
- 3.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.
- 3.M.C.6 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.OA.C.7 With accuracy and efficiency, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

<p>Standards for Mathematical Practice</p> <ul style="list-style-type: none"> • MP.1 Make sense of problems and persevere in solving them. • MP.2 Reason abstractly and quantitatively. • MP.3 Construct viable arguments and critique the reasoning of others. • MP.4 Model with mathematics. • MP.5 Use appropriate tools strategically. • MP.6 Attend to precision. • MP.7 Look for and make use of structure. • MP.8 Look for and express regularity in repeated reasoning. 	
<i>Computer Science and Design Thinking</i>	<i>Career Readiness, Life Literacies, and Key Skills</i>
<ul style="list-style-type: none"> • 8.2.5.ED.3: Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task. • 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim. 	<p>21st Century Skills</p> <ul style="list-style-type: none"> • 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g., 4.DL.B.5, 8.1.5.DA.3). • 9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data. • 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2). • 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3). <p>Technology</p> <ul style="list-style-type: none"> • 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems. <p>Career Readiness, Life Literacies, and Key Skills Practices:</p> <ul style="list-style-type: none"> • Use technology to enhance productivity, increase collaboration and communicate effectively. • Utilize critical thinking to make sense of problems and persevere in solving them.
<i>Student Learning Objectives (SLO)</i>	

Students will be able to...

- multiply to solve word problems involving arrays and measurement quantities (area).
- divide to solve word problems involving arrays and measurement quantities (area).
- decompose rectilinear figures into non-overlapping rectangles.
- find areas of non-overlapping rectangles and add to find the area of the rectilinear figure.
- solve real world problems involving area of rectilinear figures.
- represent a word problem with a drawing or array.
- represent a word problem with an equation.
- multiply whole numbers using the commutative property as a strategy.
- multiply whole numbers using the associative property as a strategy.
- use tiling to show that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$.
- multiply whole numbers using the distributive property as a strategy.
- multiply and divide within 40 with accuracy and efficiency.
- represent the solution to two-step word problems with equations.
- use a symbol to represent an unknown in an equation.
- use rounding as an estimation strategy.
- explain, using an estimation strategy, whether an answer is reasonable.
- explain arithmetic patterns using properties of operations.
- add and subtract two 2-digit whole numbers within 100 with accuracy and efficiency.

Academic Vocabulary

Multiply, Product, Array, Area, Divide, Quotient, Divisor, Dividend, Distributive property, Decompose, Equation, Estimate, Fraction, Numerator, Denominator

Essential Questions

- How can you model a division problem to find how many in each group?
- How can you model a division problem to find how many equal groups?
- How can you use bar models to solve division problems?
- How is division related to subtraction?

Enduring Understandings

- Division helps us split a total into equal groups so we can find out how many are in each group.
- Division can be used to find how many equal groups can be made from a total.
- Bar models can show how a total is split into equal parts, helping us understand and solve division problems.

- How can you use arrays to solve division problems?
- How can you use multiplication to divide?
- How can you write a set of related multiplication and division facts?
- What are the rules for dividing with 1 and 0?
- What does dividing by 2 mean?
- What strategies can you use to divide by 10?
- What does dividing by 5 mean?
- What strategies can you use to divide by 3?
- What strategies can you use to divide by 4?
- What strategies can you use to divide by 6?
- What strategies can you use to divide by 7?
- What strategies can you use to divide by 8?
- What strategies can you use to divide by 9?
- How can you use the strategy act it out to solve two step problems?
- Why are there rules such as the order of operations?
- How can you find and measure perimeter?
- How can you find the unknown length of a side in a plane figure when you know its perimeter?
- How is finding the area of a figure different from finding the perimeter of a figure?
- How can you find the area of a plane figure?
- Why can you multiply to find the area of a rectangle?
- How can you use the strategy find a pattern to solve area problems?
- How can you break apart a figure to find the area?
- How can you use area to compare rectangles with the same perimeter?
- How can you use perimeter to compare rectangles with the same area?

- Division is like subtracting the same number over and over until none is left.
- Arrays help us see equal groups clearly so we can divide by counting rows or columns.
- Multiplication and division are connected, and knowing one can help solve the other.
- Fact families show how numbers in multiplication and division problems are related.
- Dividing by 1 gives the same number; dividing 0 gives 0; dividing by 0 is not allowed.
- Dividing by 2 means splitting something into two equal parts or finding one half.
- Patterns with place value help us divide by 10 easily, like removing a zero.
- Dividing by 5 means finding how many groups of 5 are in the total.
- Knowing multiplication facts for 3 helps us divide quickly and accurately.
- Multiplication facts and skip counting by 4 help us solve division by 4.
- Using multiplication facts and patterns with 2s and 3s helps when dividing by 6.
- Division by 7 can be solved using multiplication facts and estimation.
- Using patterns and breaking numbers into smaller parts helps divide by 8.
- Knowing the 9s facts and skip counting helps when dividing by 9.
- Acting out a problem can help us understand each step and solve it more clearly.
- Rules like the order of operations help everyone solve math problems the same way and get the same answer.
- Perimeter is the distance around a shape, and we can find it by adding the lengths of all the sides.
- If we know the perimeter and the other sides, we can subtract to find the missing side.

	<ul style="list-style-type: none"> • Area tells how much space is inside a shape, while perimeter tells the distance around it. • You can find area by counting square units or using multiplication if the shape is a rectangle. • Multiplying the length and width of a rectangle gives us the total number of square units inside. • Patterns in shapes or numbers can help us predict and solve area problems more easily. • We can split a complex shape into smaller rectangles, find their areas, then add them together. • Rectangles with the same perimeter can have different areas, and we can use area to see which is bigger inside. • Rectangles with the same area can have different perimeters, and comparing them helps us see how shapes can be stretched or arranged differently.
<i>Core Instruction/Supplemental Materials</i>	<i>Assessments</i>
<ul style="list-style-type: none"> • Go Math digital resources on HMH platform • Interactive Student Journal • Student Journal from Go Math • Reteach and Enrich resources from Go Math • Vocabulary Cards • "Math on the Spot" videos through HMH Go Math • iTools from HMH Go Math • HMH Go Math Supplemental Slides • Math Readers from Go Math • Boddle Math • SumDog • Prodigy • Kahoot • Quizizz • Kahn Academy • iReady Learning Path and Lessons materials • Newspaper hunt to find numbers at least 6 digits long to write in each form 	<p>Formative</p> <ul style="list-style-type: none"> • Oral assessment • Exit tickets • Quizzes • Journals • Graphic Organizers • Class discussion • Interactive online games • Teacher observation • Classwork Practice • Discussion Trifolds • Video logs • Show What you Know • Lesson Quick Checks • Share and Show • Mid Chapter Checkpoints • Practice and Homework pages <p>Summative</p>

<ul style="list-style-type: none"> • Find estimated amounts in new stories, on the Internet, in newspapers, or magazines • Round multidigit numbers to specific place values in a Rounding Rodeo • View Math Antics videos for rounding, division, and multiplication • Play Round and Roll game • Play Rounding Numbers Pirate game on MathPlayground.com • Teacher Created Materials • 3.NF.A.1 Naming the Whole for a Fraction • 3.G.A.2 Representing Half of a Circle • 3.NF.A.2 Closest to 1/2 • 3.NF.A.2 Find 1 Starting from 5/3 • 3.NF.A.2 Locating Fractions Greater than One on the Number Line • 3.NF.A.3b, 3.G.A.2, 3.M.B.4 Halves, thirds, and sixths • Social Emotional Learning: Problem Solving - "The Most Magnificent Thing" by Ashley Spires • Holocaust Law - "The Bicycle Spy" by Yona Zeldis McDonough 	<ul style="list-style-type: none"> • Tests • Skills assessment/Benchmarks <p>Alternative</p> <ul style="list-style-type: none"> • Centers/activities/games • Performance assessments • Projects
<p align="center"><i>Modifications/Differentiated Activities</i></p>	
<p>Enrichment/Gifted and Talented</p> <ul style="list-style-type: none"> • Differentiated curriculum for the gifted learner. • Regular classroom curricula and instruction that is adapted, modified, or replaced. • Educational opportunities consisting of a continuum of differentiated curricular options, instructional approaches and materials. • Integrated G&T programming into the general education school day. • Flexible groupings of students to facilitate differentiated instruction and curriculum. <p>Learning Environments:</p> <ul style="list-style-type: none"> • Extensive outside reading • Active classroom discussion • Innovative oral and written presentations 	<p>Multilingual Learners</p> <ul style="list-style-type: none"> • Alternate Responses • Notes in Advance • Extended Time • Simplified Instruction (written and verbal) • Online Dictionary • Use lots of visuals • Use physical activity; model, role-play • Repeat/Rephrase often • Use lower level materials when appropriate

<ul style="list-style-type: none"> • Deductive and inductive reasoning • Independent writing and research • Divergent thinking • Challenging problem solving situations • Interactive, independent and interdisciplinary activities 	
<p>Special Education</p> <p>GENERAL MODIFICATIONS:</p> <ul style="list-style-type: none"> • Allow outlining, instead of writing for an essay or major project • Computerized spell-check support • Word bank of choices for answers to test questions • Provision of calculator and/or number line for math tests • Film or video supplements in place of reading text • Reworded questions in simpler language • Projects instead of written reports • Highlighting important words or phrases in reading assignments • Modified workload or length of assignments/tests • Modified time demands • Pass/no pass option • Modified grades based on IEP <p>BEHAVIOR MODIFICATIONS:</p> <ul style="list-style-type: none"> • Breaks between tasks • Cue expected behavior • Daily feedback to student • Use de-escalation strategies • Use positive reinforcement • Use proximity/touch control • Use peer supports and mentoring • Model expected behavior by adults • Have parent sign homework/behavior chart • Set and post class rules • Chart progress and maintain data 	<p>At Risk (Intervention)</p> <ul style="list-style-type: none"> • Maximize use of community resources • Connect family to school and school activities • Support through transition • Help develop compensating strategies • Increase opportunity for positive peer group influences • Supplemental courses • Placement in small and interactive groups
Grade: 3	Course: Math

Pacing - 8 weeks	
Unit: 3 - Time Measurement & Fractions	Big Idea: Chapter 10- Time Measurement and Intervals Chapter 11- Understand Fractions as Numbers Chapter 12- Compare Fractions and Identify Equivalent Fractions
Content Area NJSLS Performance Expectations Addressed	Interdisciplinary Connections
<ul style="list-style-type: none"> 3.NF.A.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 $1/b$. <i>For example: If a rectangle (i.e. the whole) is partitioned into 3 equal parts, each part is $\frac{1}{3}$. Two of those parts would be $\frac{2}{3}$.</i> 3.G.A.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. <i>For example, partition a shape into 4 parts having equal area and describe the area of each part as $\frac{1}{4}$ of the area of the shape.</i> 3.NF.A.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram. <ol style="list-style-type: none"> 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. <i>For example, partition the number line from 0 to 1 into 3 equal parts, represent $\frac{1}{3}$ on the number line and show that each part has a size $\frac{1}{3}$.</i> 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.A.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size 	English Language Arts <ul style="list-style-type: none"> RI.MF.3.6. Use information gained from text features (e.g., illustrations, maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur). SL.PE.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly. L.VL.3.4. Determine or clarify the meaning of unknown and multiple-meaning academic and domain-specific words and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies. Science <ul style="list-style-type: none"> 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

<ul style="list-style-type: none"> a. Understand two fractions as equivalent (equal) if they are the same size. Understand two fractions as equivalent if they are located at the same point on a number line. b. Recognize and generate simple equivalent fractions by reasoning about their size, (e.g., $1/2 = 2/4$, $4/6 = 2/3$). Explain why the fractions are equivalent with the support of a visual fraction model. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. <i>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.</i> 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 with the support of a visual fraction model. <ul style="list-style-type: none"> • 3.M.A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram. <p>Standards for Mathematical Practice</p> <ul style="list-style-type: none"> • MP.1 Make sense of problems and persevere in solving them. • MP.2 Reason abstractly and quantitatively. • MP.3 Construct viable arguments and critique the reasoning of others. • MP.4 Model with mathematics. • MP.5 Use appropriate tools strategically. • MP.6 Attend to precision. • MP.7 Look for and make use of structure. • MP.8 Look for and express regularity in repeated reasoning. 	
<p>Computer Science and Design Thinking</p>	<p>Career Readiness, Life Literacies, and Key Skills</p>

- 8.2.5.ED.3: Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task.
- 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim.

21st Century Skills

- 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g., 4.DL.B.5, 8.1.5.DA.3).
- 9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data.
- 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
- 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).

Technology

- 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.

Career Readiness, Life Literacies, and Key Skills Practices:

- Use technology to enhance productivity, increase collaboration and communicate effectively.
- Utilize critical thinking to make sense of problems and persevere in solving them.

Student Learning Objectives (SLO)

Students will be able to...

- partition rectangles, and other shapes, into halves, thirds, fourths, sixths and eighths.
- identify the fractional name of each part.
- model and explain that a fraction a/b is the quantity formed by a parts of size $1/b$ (For example, $10/2$ is 10 parts and each part is of size $1/2$).
- partition a number line into parts of equal sizes between 0 and 1 (halves, thirds, fourths sixths and eighths).
- plot unit fractions on the number line.
- identify multiple parts (of length $1/b$) on the number line.
- plot a fraction on the number line by marking off multiple parts of size $1/b$.
- plot fractions equivalent to whole numbers including 0 and up to 5.
- find equivalent fractions (limited to fractions with denominators 2, 3, 4, 6, and 8).

- explain why two fractions are equivalent; use a visual fraction model to support explanation.
- write whole numbers as fractions.
- identify fractions that are equivalent to whole numbers.
- compare two fractions having the same numerator by reasoning about their size.
- compare two fractions having the same denominator by reasoning about their size.
- explain why comparing fractions that do not have the same whole is not valid (reason about their size and support reasoning with a model).
- use $<$, $=$, and $>$ symbols to write comparisons of fractions and justify conclusions with a visual fraction model.
- tell time to the nearest minute using digital and analog clocks.
- write time to the nearest minute using analog clocks.
- choose appropriate strategies to solve real world problems involving time.
- use the number line as a visual model to determine intervals of time as *jumps* on a number line.
- measure time intervals.

Academic Vocabulary

Fraction, Unit fraction, Numerator, Denominator, Equivalent, Whole number, Hour, Minute, Second, Quadrilateral, Rhombus, Rectangle, Square, Perimeter, Area

Essential Questions

- How can you tell time to the nearest minute?
- How can you tell when to use A.M. and P.M. with time?
- How can you measure elapsed time in minutes?
- How can you find a starting time or an ending time when you know the elapsed time?
- How can you use the strategy draw a diagram to solve problems about time?
- What are equal parts of a whole?
- Why do you need to know how to make equal shares?
- What do the top and bottom numbers of a fraction tell?
- How does a fraction name part of a whole?
- How can you represent and locate fractions on a number line?
- When might you use a fraction greater than 1 or a whole number?

Enduring Understandings

- Clocks help us measure time precisely, and reading the minute and hour hands carefully shows the exact time to the minute.
- A.M. and P.M. help us understand whether an event happens in the morning or the afternoon/evening.
- Elapsed time shows how much time passes between two events and can be measured using clocks or timelines.
- By adding or subtracting minutes from a known time, we can find either the beginning or end of an event.
- Drawing a number line or clock helps us visualize and solve time problems step-by-step.
- Equal parts are pieces that are the same size and shape, and they fairly divide a whole into balanced sections.

<ul style="list-style-type: none"> • How can a fraction name part of a group? • How can a fraction tell how many are in part of a group? • How can you use the strategy draw a diagram to solve fraction problems? • How can you use the strategy act it out to solve comparison problems? • How can you compare fractions with the same denominator? • How can you compare fractions with the same numerator? • What strategies can you use to compare fractions? • How can you compare and order fractions? • How can you use models to find equivalent fractions? • How can you use models to name equivalent fractions? 	<ul style="list-style-type: none"> • Making equal shares helps us divide things fairly and understand fractions. • The top number (numerator) tells how many parts you have; the bottom number (denominator) tells how many equal parts make the whole. • A fraction shows how much of a whole is being used, shared, or shaded. • Number lines help show fractions as points between whole numbers, helping us understand their size and order. • We use fractions greater than 1 when the parts add up to more than one whole, like in recipes or measuring. • A fraction can describe how many items in a group belong to a part of that group. • A fraction of a group shows how many members fit into that part, based on the size of the whole group. • Drawing pictures, shapes, or number lines helps us visualize and solve fraction problems more clearly. • Acting out helps make abstract ideas (like comparing sizes or groups) more concrete and easier to understand. • When fractions have the same denominator, the one with the larger numerator is greater. • When fractions have the same numerator, the one with the smaller denominator is greater because the parts are bigger. • You can use number lines, drawings, common denominators, or benchmarks like $\frac{1}{2}$ to compare fractions. • We can compare and order fractions by looking at their sizes, using models or number lines. • Visual models like fraction bars or circles help us see when two different fractions represent the same amount. • Using models helps us name different fractions that cover the same space, showing equivalence.
<i>Core Instruction/Supplemental Materials</i>	<i>Assessments</i>
<ul style="list-style-type: none"> • Go Math digital resources on HMH platform 	Formative

<ul style="list-style-type: none"> • Interactive Student Journal • Student Journal from Go Math • Reteach and Enrich resources from Go Math • Vocabulary Cards • “Math on the Spot” videos through HMH Go Math • iTools from HMH Go Math • HMH Go Math Supplemental Slides • Math Readers from Go Math • Boddle Math • SumDog • Prodigy • Kahoot • Quizizz • Kahn Academy • iReady Learning Path and Lessons materials • Newspaper hunt to find numbers at least 6 digits long to write in each form • Find estimated amounts in new stories, on the Internet, in newspapers, or magazines • Round multidigit numbers to specific place values in a Rounding Rodeo • View Math Antics videos for rounding, division, and multiplication • Play Round and Roll game • Play Rounding Numbers Pirate game on MathPlayground.com • Teacher Created Materials • Amistad Law: Explore fraction concepts using “The Talking Eggs” by Robert D. San Souci 	<ul style="list-style-type: none"> • Oral assessment • Exit tickets • Quizzes • Journals • Graphic Organizers • Class discussion • Interactive online games • Teacher observation • Classwork Practice • Discussion Trifolds • Video logs • Show What you Know • Lesson Quick Checks • Share and Show • Mid Chapter Checkpoints • Practice and Homework pages <p>Summative</p> <ul style="list-style-type: none"> • Tests • Skills assessment/Benchmarks <p>Alternative</p> <ul style="list-style-type: none"> • Centers/activities/games • Performance assessments • Projects
<p align="center"><i>Modifications/Differentiated Activities</i></p>	
<p>Enrichment/Gifted and Talented</p> <ul style="list-style-type: none"> • Differentiated curriculum for the gifted learner. • Regular classroom curricula and instruction that is adapted, modified, or replaced. 	<p>Multilingual Learners</p> <ul style="list-style-type: none"> • Alternate Responses • Notes in Advance • Extended Time • Simplified Instruction (written and verbal) • Online Dictionary

<ul style="list-style-type: none"> • Educational opportunities consisting of a continuum of differentiated curricular options, instructional approaches and materials. • Integrated G&T programming into the general education school day. • Flexible groupings of students to facilitate differentiated instruction and curriculum. <p>Learning Environments:</p> <ul style="list-style-type: none"> • Extensive outside reading • Active classroom discussion • Innovative oral and written presentations • Deductive and inductive reasoning • Independent writing and research • Divergent thinking • Challenging problem solving situations • Interactive, independent and interdisciplinary activities 	<ul style="list-style-type: none"> • Use lots of visuals • Use physical activity; model, role-play • Repeat/Rephrase often • Use lower level materials when appropriate
<p>Special Education</p> <p>GENERAL MODIFICATIONS:</p> <ul style="list-style-type: none"> • Allow outlining, instead of writing for an essay or major project • Computerized spell-check support • Word bank of choices for answers to test questions • Provision of calculator and/or number line for math tests • Film or video supplements in place of reading text • Reworded questions in simpler language • Projects instead of written reports • Highlighting important words or phrases in reading assignments • Modified workload or length of assignments/tests • Modified time demands • Pass/no pass option • Modified grades based on IEP <p>BEHAVIOR MODIFICATIONS:</p> <ul style="list-style-type: none"> • Breaks between tasks • Cue expected behavior • Daily feedback to student • Use de-escalation strategies 	<p>At Risk (Intervention)</p> <ul style="list-style-type: none"> • Maximize use of community resources • Connect family to school and school activities • Support through transition • Help develop compensating strategies • Increase opportunity for positive peer group influences • Supplemental courses • Placement in small and interactive groups

- | | |
|---|--|
| <ul style="list-style-type: none">• Use positive reinforcement• Use proximity/touch control• Use peer supports and mentoring• Model expected behavior by adults• Have parent sign homework/behavior chart• Set and post class rules• Chart progress and maintain data | |
|---|--|

Grade: 3	Course: Math
Pacing: 8 weeks	
Unit: 4 - Measurement, 2 Dimensional Shapes, Data	Big Idea: Chapter 13 - Measurement Chapter 14 - Define Two-Dimensional Shapes Chapter 15 - Represent and Interpret Data
<i>Content Area NJSLS Performance Expectations Addressed</i>	<i>Interdisciplinary Connections</i>
<ul style="list-style-type: none"> • 3.M.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).6 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. • 3.M.B.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.M.B.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.DL.A.1 Develop data-based questions and decide what data will answer the question. (e.g. “What size shoe does a 3rd grader wear?”, “How many books does a 3rd grader read?”) • 3.DL.A.2 Collect student-centered data (e.g. collect data on students’ favorite ice cream flavor) or use existing data to answer data-based questions. • 3.DL.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and 	English Language Arts <ul style="list-style-type: none"> • RI.CR.3.1. Ask and answer questions and make relevant connections to demonstrate understanding of an informational text, referring explicitly to textual evidence as the basis for the answers. • RI.MF.3.6. Use information gained from text features (e.g., illustrations, maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur). • SL.PE.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others’ ideas and expressing their own clearly. Science <ul style="list-style-type: none"> • 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

<p>two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. <i>For example, draw a bar graph in which each square in the bar graph might represent 5 pets.</i></p> <ul style="list-style-type: none"> • 3.G.A.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.A.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 $\frac{1}{4}$ of the area of the shape. <p>Standards for Mathematical Practice</p> <ul style="list-style-type: none"> • MP.1 Make sense of problems and persevere in solving them. • MP.2 Reason abstractly and quantitatively. • MP.3 Construct viable arguments and critique the reasoning of others. • MP.4 Model with mathematics. • MP.5 Use appropriate tools strategically. • MP.6 Attend to precision. • MP.7 Look for and make use of structure. • MP.8 Look for and express regularity in repeated reasoning. 	
<i>Computer Science and Design Thinking</i>	<i>Career Readiness, Life Literacies, and Key Skills</i>
<ul style="list-style-type: none"> • 8.2.5.ED.3: Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task. • 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim. 	<p>21st Century Skills</p> <ul style="list-style-type: none"> • 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g., 4.DL.B.5, 8.1.5.DA.3). • 9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data.

- 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
- 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).

Technology

- 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.

Career Readiness, Life Literacies, and Key Skills Practices:

- Use technology to enhance productivity, increase collaboration and communicate effectively.
- Utilize critical thinking to make sense of problems and persevere in solving them.

Student Learning Objectives (SLO)

Students will be able to...

- measure and read a scale to estimate volume.
- measure and read a scale to estimate mass.
- add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes.
- classify and sort shapes by attributes.
- explain why rhombuses, rectangles, and squares are examples of quadrilaterals.
- draw examples of quadrilaterals.
- draw scaled picture graphs.
- draw scaled bar graphs.
- analyze, interpret and create bar graphs and pictographs in real world situations.
- solve “how many more” and “how many less” problems using scaled bar graphs.
- measure length using rulers marked with inch, quarter inch and half inch
- generate measurement data by measuring length and create a line plot of the data
- accurately measure several small objects using a standard ruler and display findings on a line plot
- display data on line plots with horizontal scales in whole numbers, halves, and quarters.
- represent two-step word problems with equation(s) containing unknowns.

- perform operations in the conventional order (no parentheses).
- use rounding as an estimation strategy.
- explain, using an estimation strategy, whether an answer is reasonable.
- decompose rectilinear figures into non-overlapping rectangles.
- find areas of non-overlapping rectangles and add to find the area of the rectilinear figure.
- solve real world problems involving area of rectilinear figures.

Academic Vocabulary

Bar graph, Picture graph, Measure, Line plot, Data, Equation, Estimation, Round, Area

Essential Questions

- How can you use fractional amounts to accurately measure the length of an object?
- How can you generate measurement data for the lengths of objects and organize the data on a line plot?
- How do I choose the appropriate U.S. Customary unit (cups, pints, quarts, gallons) to measure liquid volume?
- How are cups, pints, quarts, and gallons related to each other?
- How can I estimate, measure, and compare liquid volumes using U.S. Customary units?
- How can you estimate and measure liquid volume in metric units?
- How do I choose the correct unit (ounces, pounds, tons) to measure the weight of an object?
- How are ounces, pounds, and tons related to each other?
- How can I estimate, measure, and compare the weight of objects using U.S. Customary units?
- How can you estimate and measure mass in metric units?
- How can you use models to solve liquid volume and mass problems?
- How can you use the strategy make a table to organize data and solve problems?
- How can you draw a picture graph to show data in a table?
- How can you read and interpret data in a picture graph?

Enduring Understandings

- Length can be measured more precisely using fractional units, such as halves or fourths of an inch.
- Measurement data can be collected, organized, and displayed using line plots to help make sense of information and solve problems.
- Choosing the correct unit for liquid volume depends on the size of the container and what is being measured.
- U.S. Customary units for liquid volume are connected through multiplication and division and can be converted from one to another.
- Liquid volume can be estimated and measured using standard units, and volumes can be compared to understand more or less.
- Metric units like milliliters and liters are used to measure liquid volume, and estimation helps determine reasonable amounts.
- Selecting the appropriate weight unit depends on the size and heaviness of the object being measured.
- U.S. Customary weight units are related by known conversion relationships and can be used to describe small or large weights.

<ul style="list-style-type: none"> • How can you read and interpret data in a circle graph? • How can you read and interpret data in a bar graph? • How can you solve problems using data represented in bar graphs? • How can you read and interpret data in a line plot and use data to make a line plot? 	<ul style="list-style-type: none"> • Weights can be estimated, measured, and compared using standard units to understand how heavy different objects are. • Mass can be estimated and measured using grams and kilograms, and metric units offer a consistent way to measure weight globally. • Organizing information in a table helps us see patterns and solve problems more clearly. • Picture graphs turn data into visual symbols, making it easier to understand and compare information. • Circle graphs show how parts relate to a whole and help us compare categories as portions of a total. • Bar graphs use bars to show and compare data across categories, making it easy to identify trends and differences. • Bar graphs help us answer questions and solve problems by visually comparing quantities. • Line plots show frequency of data along a number line and help us organize and analyze measurement data effectively.
<i>Core Instruction/Supplemental Materials</i>	<i>Assessments</i>
<ul style="list-style-type: none"> • Go Math digital resources on HMH platform • Interactive Student Journal • Student Journal from Go Math • Reteach and Enrich resources from Go Math • Vocabulary Cards • “Math on the Spot” videos through HMH Go Math • iTools from HMH Go Math • HMH Go Math Supplemental Slides • Math Readers from Go Math • Boddle Math • SumDog • Prodigy • Kahoot • Quizizz • Kahn Academy • iReady Learning Path and Lessons materials 	Formative <ul style="list-style-type: none"> • Oral assessment • Exit tickets • Quizzes • Journals • Graphic Organizers • Class discussion • Interactive online games • Teacher observation • Classwork Practice • Discussion Trifolds • Video logs • Show What you Know • Lesson Quick Checks • Share and Show • Mid Chapter Checkpoints

<ul style="list-style-type: none"> • Newspaper hunt to find numbers at least 6 digits long to write in each form • Find estimated amounts in new stories, on the Internet, in newspapers, or magazines • Round multidigit numbers to specific place values in a Rounding Rodeo • View Math Antics videos for rounding, division, and multiplication • Play Round and Roll game • Play Rounding Numbers Pirate game on MathPlayground.com • Teacher Created Materials • 3.M.B.5 Three Hidden Rectangles • 3.OA.D.8 The Stamp Collection • 3.NBT.A.2, 3.M.A.3, 3.OA.A.3 Classroom Supplies • 3.M.A.1 Dajuana's Homework • 3.M.A.2 How Heavy? • 3.M.C.6 Shapes and their Insides 	<ul style="list-style-type: none"> • Practice and Homework pages <p>Summative</p> <ul style="list-style-type: none"> • Tests • Skills assessment/Benchmarks <p>Alternative</p> <ul style="list-style-type: none"> • Centers/activities/games • Performance assessments • Projects
<p align="center"><i>Modifications/Differentiated Activities</i></p>	
<p>Enrichment/Gifted and Talented</p> <ul style="list-style-type: none"> • Differentiated curriculum for the gifted learner. • Regular classroom curricula and instruction that is adapted, modified, or replaced. • Educational opportunities consisting of a continuum of differentiated curricular options, instructional approaches and materials. • Integrated G&T programming into the general education school day. • Flexible groupings of students to facilitate differentiated instruction and curriculum. <p>Learning Environments:</p> <ul style="list-style-type: none"> • Extensive outside reading • Active classroom discussion • Innovative oral and written presentations • Deductive and inductive reasoning 	<p>Multilingual Learners</p> <ul style="list-style-type: none"> • Alternate Responses • Notes in Advance • Extended Time • Simplified Instruction (written and verbal) • Online Dictionary • Use lots of visuals • Use physical activity; model, role-play • Repeat/Rephrase often • Use lower level materials when appropriate

<ul style="list-style-type: none"> • Independent writing and research • Divergent thinking • Challenging problem solving situations • Interactive, independent and interdisciplinary activities 	
<p>Special Education</p> <p>GENERAL MODIFICATIONS:</p> <ul style="list-style-type: none"> • Allow outlining, instead of writing for an essay or major project • Computerized spell-check support • Word bank of choices for answers to test questions • Provision of calculator and/or number line for math tests • Film or video supplements in place of reading text • Reworded questions in simpler language • Projects instead of written reports • Highlighting important words or phrases in reading assignments • Modified workload or length of assignments/tests • Modified time demands • Pass/no pass option • Modified grades based on IEP <p>BEHAVIOR MODIFICATIONS:</p> <ul style="list-style-type: none"> • Breaks between tasks • Cue expected behavior • Daily feedback to student • Use de-escalation strategies • Use positive reinforcement • Use proximity/touch control • Use peer supports and mentoring • Model expected behavior by adults • Have parent sign homework/behavior chart • Set and post class rules • Chart progress and maintain data 	<p>At Risk (Intervention)</p> <ul style="list-style-type: none"> • Maximize use of community resources • Connect family to school and school activities • Support through transition • Help develop compensating strategies • Increase opportunity for positive peer group influences • Supplemental courses • Placement in small and interactive groups