

Math

Grade 3

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Grade 3 Math

Course Description:

The Midland Park Grade 3 math instruction is taught utilizing the Concrete Pictorial Abstract model of instruction. Starting with Concrete stage, students will utilize manipulatives for hands-on learning. Next moving on to Pictorial stage, students will represent concepts visually using models, pictures, or drawings. Lastly, students will move into the Abstract stage utilizing numbers and symbols to solidify their understanding of the concept. By moving through these three stages the Standards for Math Practice are addressed. The areas of focus are on developing understanding of multiplication and division and strategies for multiplication and division within 100; developing understanding of fractions, especially unit fractions (fractions with numerator 1); developing understanding of the structure of rectangular arrays and of area; and describing and analyzing two-dimensional shapes.

Course Sequence:

Unit Title	Pacing
Unit 1: Place Value, Addition, & Subtraction	46 days
Unit 2: Multiplication	39 days
Unit 3: Division	28 days
Unit 4: Fractions	23 days
Unit 5: Area and Perimeter	22 days
Unit 6: Calendar Math	Full-year
State Testing, SGO, Re-Teach, Field Trips, Assemblies, etc.	25 days

Pre-requisite:

2nd grade math

UNIT #1**Overview****Content Area: Math****Unit Title: Place Value, Addition, and Subtraction****Grade Level(s): 3**

Core Ideas: In this unit, students will engage in activities to reinforce place value concepts learned in second grade. Students will build upon this foundation by using mental math strategies to solve one- and two-digit problems to develop fluency with numbers. Students will learn strategies for solving addition and subtraction and be able to explain how and why they solved using these strategies.

Standards (Content and Technology)**CPI#:****Statement:****Performance Expectations (NJSL)**

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.
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3.OA.D.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table) and explain them using properties of operations. <i>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.</i>
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3.NBT.A.1	Use place value understanding to round whole numbers to the nearest 10 or 100.
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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.
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SMP.1	Make sense of problems and persevere in solving them.
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SMP.2	Reason abstractly and quantitatively.
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SMP.3	Construct viable arguments and critique the reasoning of others.
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SMP.4	Model with mathematics.
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SMP.5	Use appropriate tools strategically.
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SMP.6	Attend to precision.
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SMP.7	Look for and make use of structure.
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SMP.8	Look for and express regularity in repeated reasoning.
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Career Readiness (9.2) Life Literacies, and Key Skills (standard 9.1, 9.4)

9.2.5.CAP.2	Identify how you might like to earn an income.
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9.1.5.CR.1	Compare various ways to give back and relate them to your strengths, interests, and other personal factors.
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9.4.5.CT.1	Identify and gather relevant data that will aid in the problem-solving process.
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9.4.5.CT.2	Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem.
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9.1.5.FP.3	Analyze how spending choices and decision-making can result in positive or negative consequences.
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9.4.5.CT.4	Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global.
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Computer Science and Design Thinking (standard 8)

9.4.5.TL.3	Format a document using a word processing application to enhance text, change page formatting, and include appropriate images graphics, or symbols.
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Interdisciplinary Connection

RI.3.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
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SL.3.3	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
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3.PS2-2	Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.
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Cross-cultural Statements/Mandates (Amistad, Holocaust, LGBT/Disabilities, SEL, etc...)

SEL: References to this mandate are made by studying perseverance through Julia Robinson. After spending decades working on Hilbert's tenth problem, she found a solution in 1980 which was considered groundbreaking achievement.

Unit Essential Question(s): <ul style="list-style-type: none"> • Why do we solve using estimation as opposed to an actual amount? • What strategies are effective for solving addition and subtraction problems? • When are these strategies appropriate to use? 	Unit Enduring Understandings: <ul style="list-style-type: none"> • Estimation is used to check the reasonableness of an answer. • Depending on the numbers used I can apply different strategies
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Evidence of Learning

Formative Assessments: Entrance Slips, exit slips, quizzes, question/answer routines, homework, small group work, practice pages, active participation (i.e. whiteboard work student talk)

Summative/Benchmark Assessment(s): unit/benchmark assessments

Alternative Assessments: Modified versions of formative and summative assessments, project-based assessment, oral assessment

Resources/Materials: <ul style="list-style-type: none"> • Teacher created binders • Teacher created calendars • SMARTBOARD • Math Textbook • Everyday Counts Calendar Math • Online Resources (i.e ThinkCentral, Reflex, IXL. Edulastic, BrainPop,etc.) • Math Manipulatives; Base ten blocks 	Key Vocabulary: <ul style="list-style-type: none"> • Place Value • Value • Period • Standard Form • Word Form • Expanded Form • Rounding • Estimation • Sum • Difference • Commutative Property of Addition • Associative Property of Addition • Identity Property of Addition
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Suggested Pacing Guide

Lesson Name/Topic	Student Learning Objective(s)	Suggested Tasks/Activities:	Day(s) to Complete
Welcome & Introduction to Polygons	Students will analyze and categories shapes based on their attributes	<ul style="list-style-type: none"> • Define Polygon definition • Brain Pop • Polygon Notes with exploragons • Polygon Sort • Polygon or Not a Polygon • Online digital task cards 	4 days
Fast Ten	Students will be able to use mental math strategies to make a fast ten to add up	<ul style="list-style-type: none"> • Review making fast tens with students • Model how to use mental math strategies to add within 20 (fast-ten templates) • Guided & independent practice 	1 day
Math Mountain	Students will be able to <ul style="list-style-type: none"> • identify numbers as two parts and a total to create a math mountain • create four related equations based on a math mountain 	<ul style="list-style-type: none"> • Model math mountain within 20 • Review two addends (parts) is equal to a sum (total) • Have students practice writing four related addition/subtraction equations from math mountains 	2 days

		<ul style="list-style-type: none"> • Model math mountains with a variable • Guided & independent practice 	
Place Value	<p>Students will be able to</p> <ul style="list-style-type: none"> • identify and create place value drawings • decompose and rename whole numbers • read and write whole numbers through the thousands period • reading and write whole numbers using standard form, word form, and expanded form. 	<ul style="list-style-type: none"> • Model place value up to one-thousand use base-ten blocks • Students will model and create their own numbers using base-ten blocks • Model place value using drawings • Students will model and create their own numbers through drawings • Review place value to the thousands then introduce ten thousand and hundred thousand. Guided notes on vocabulary; place value, value, period • Model reading and writing numbers in standard, written, and expanded form • Guided & independent practice reading and writing numbers in standard, written, and expanded form • Use 2.NBT packet to practice decomposing and renaming whole numbers • Online Digital Task cards for place value 	8 days
Rounding	<p>Students will round two-digit and three-digit numbers using base ten blocks, hundreds grid, or on an open number line</p>	<ul style="list-style-type: none"> • Model rounding using base-ten blocks (balance activity) • Model rounding between two tens on a number line • Model rounding between two hundreds on a number line • Guided & independent practice rounding to the nearest 10 and the nearest 100 • I have, Who Has activity • Roll It Rounding activity • Digital color by number rounding task cards • Rounding Path Puzzles 	4 days
Assessment	<p>Students will be able to demonstrate knowledge of the above objectives.</p>	<ul style="list-style-type: none"> • Assessment 	1 day
Estimate Sums & Differences	<p>Students will be able to estimate sums and differences</p>	<ul style="list-style-type: none"> • Class Discussion on estimation 	2 days

		<ul style="list-style-type: none"> • Model estimating sums and differences by rounding • Guided & independent practice • Estimation Addition/Subtraction Word Problems • Estimate Sums Game 	
Assessment	Students will be able to estimate sums and differences	<ul style="list-style-type: none"> • Assessment 	1 day
Properties of Addition	Students will be able to learn and apply the Properties of addition (Commutative, Associative, and Identity) to solve problems.	<ul style="list-style-type: none"> • Model commutative, associative, and identity property of addition • Guided notes • Guided & independent practice applying addition properties to solve problems 	1 day
Adding	<p>Students will be able to</p> <ul style="list-style-type: none"> • model addition problems using the partial sums. • model addition problems by adding up on a number line. • find sums of two-digit and three-digit addends using the traditional algorithm • use estimation with addition to check if their work is reasonable. 	<ul style="list-style-type: none"> • Model addition using partial sums with base-ten blocks and corresponding algorithm • Guided & independent practice • Model addition using “hit the target” strategy • Guided & independent practice • Model addition using the traditional algorithm • Guided & independent practice • Have students use estimation to check if their work is reasonable throughout lessons • Place it Right Activity • Globes of Goo Activity • Addition Gallery Walk • Addition BINGO • Addition Scoot • Digital Addition Task Cards 	7 days
Assessment	Students will be able to add two and three-digit whole numbers	<ul style="list-style-type: none"> • Assessment 	1 day
Addition 4-step word problem plan	Students will be able to utilize the four-step word problem plan to solve addition word problems.	<ul style="list-style-type: none"> • Model BLS and the four-step word problem plan • Provide template for each student • Guided & independent practice • Online Digital Task Cards 	2 days
Oodles of Noodles Build 1,000	Students will be able to build one thousand.	<ul style="list-style-type: none"> • Read “How Much, How Many, How Far, How Heavy, How Long, How Tall is 1,000?” • Oodles of Noodles Activity 	1 day

Subtraction	Students will be able to <ul style="list-style-type: none"> • use base ten blocks to model subtraction with two digit and three-digit numbers and regrouping. • use the add up strategy to solve subtraction problems to find the difference. • apply the same change rule to find differences • use estimation with subtraction to check if their work is reasonable. 	<ul style="list-style-type: none"> • Use base-ten blocks to model subtraction with two and three-digit numbers with and without regrouping • Guided & independent practice • Model the add up strategy on a number line • Guided & independent practice • Model the same change rule to find differences • Guided & independent practice • Have students use estimation to check if their work is reasonable. • Subtraction BINGO • Subtraction puzzle • Subtraction Escape Room • 5 in a row subtraction game 	6 days
Assessment	Students will be able to subtract two and three-digit whole numbers.	<ul style="list-style-type: none"> • Assessment 	1 day
Mixed Addition and Subtraction Word Problems	Students will be able to solve both addition and subtraction application word problems.	<ul style="list-style-type: none"> • Review BLS and four-step plan for word problems • Mix adding and subtracting word problems while simultaneously creating a list of key words/phrases for addition and subtraction • Addition and Subtraction Word Problems Gallery Walk 	1 day
Review and Assessment	Students will be able to demonstrate knowledge of the above objectives.	<ul style="list-style-type: none"> • Review Game • Assessment 	2 days

Teacher Notes:

- Include benchmark assessment- procedure and problem solving over the course of 3 math periods (procedure- 1 period; problem solving 2 periods)
- Include daily practice of basic facts (addition and subtraction) through games and fluency practice
- Insert Open ended tasks throughout the unit
- Insert NJSLA like practice problems aligned to these standards and concepts taught throughout the unit

Additional Resources:

Grade Level Team is shared on the following Google Docs including activities to practice and apply skills entitled:

- Whole class game- Talk a Mile a Minute
- Build 1,000 using noodles
- This website has resources for learning tasks- [link](#)

Differentiation/Modification Strategies

Students with Disabilities	English Language Learners
<ul style="list-style-type: none"> • Consult student IEP • Allow errors • Rephrase questions, directions, and explanations • Allow a calculator when necessary • Allow extended time to answer questions, and permit drawing, as an explanation 	<ul style="list-style-type: none"> • Consult student ELL Plan • Assign a buddy, same language or English speaking • Allow errors in speaking • Rephrase questions, directions, and explanations • Allow extended time to answer questions

Midland Park Public Schools

<ul style="list-style-type: none"> • Accept participation at any level, even one word • Consult with Case Managers and follow IEP 	<ul style="list-style-type: none"> • Accept participation at any level, even one word
<p>Gifted & Talented Students</p>	<p>Students at Risk</p>
<ul style="list-style-type: none"> • Consult with G and T teacher • Provide extension activities • Make peer leaders • Build on students' intrinsic motivations • Consult with parents to accommodate students' interests in completing tasks at their level of engagement 	<ul style="list-style-type: none"> • Consult with I &RS as needed • Provide extended time to complete tasks • Consult with Guidance Counselors and follow I&RS procedures/action plans • Consult with classroom teacher(s) for specific behavior interventions • Provide rewards as necessary
<p>504 Students</p>	<p>Other:</p>
<ul style="list-style-type: none"> • Consult 504 Plan • Allow errors • Rephrase questions, directions, and explanations • Allow a calculator when necessary • Allow extended time to answer questions, and permit drawing, as an explanation • Accept participation at any level, even one word • Consult with Case Managers and follow 504 	

UNIT #2**Overview****Content Area: Math****Unit Title: Place Value – Multiplication****Grade Level(s): 3**

Core Ideas: In this unit, students will engage in a number of hands-on learning activities to build a foundation and conceptual understanding of multiplication. Students will engage in reading work problems and identifying the factors (number of groups and number in each group) and product (total amount in all). Students will model the math using hands on, pictures, and symbolic methods. Students will begin to be held responsible for automaticity of facts and to committing the multiplication facts to memory upon the completion of third grade.

Standards (Content and Technology)**CPI#:****Statement:****Performance Expectations (NJSLs)**

3.NBT.A.3	A. Use place value understanding and properties of operations to perform multi-digit arithmetic. 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.OA.A.1	Represent and solve problems involving multiplication and division. 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.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. ¹
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.B.5	Understand properties of multiplication and the relationship between multiplication and Division. 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 $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)
3.OA.C.7	Multiply and divide within 100. 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. By the end of Grade 3, know from memory all products of two one-digit numbers.
3.OA.D.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table) and explain them using properties of operations. <i>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</i>
SMP.1	Make sense of problems and persevere in solving them.
SMP.2	Reason abstractly and quantitatively.
SMP.3	Construct viable arguments and critique the reasoning of others.
SMP.4	Model with mathematics.
SMP.5	Use appropriate tools strategically.
SMP.6	Attend to precision.
SMP.7	Look for and make use of structure.
SMP.8	Look for and express regularity in repeated reasoning
Career Readiness (9.2) Life Literacies, and Key Skills (standard 9.1, 9.4)	
9.2.5.CAP.1	Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.
9.2.5.CAP.2	Identify how you might like to earn an income.
9.4.5.CT.1	Identify and gather relevant data that will aid in the problem-solving process.

9.4.5.CT.4	Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global.		
Computer Science and Design Thinking (standard 8)			
9.4.2.TL.2	Create a document using a word processing application.		
9.4.5.TL.3	Format a document using a word processing application to enhance text, change page formatting, and include appropriate images graphics, or symbols.		
Interdisciplinary Connection			
SL.3.1.B	Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).		
SL.3.1.C	Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.		
SL.3.1.D	Explain their own ideas and understanding in light of the discussion.		
Cross-cultural Statements/Mandates (<i>Amistad, Holocaust, LGBT/Disabilities, SEL, etc...</i>)			
Amistad: References to this mandate are made by studying John Urschel, an African American who retired from the NFL at age 26 for a chance at a PhD in mathematics at MIT. As John Urschel most famously quoted, “Being capable of thinking quantitatively – it’s the single most important thing.”			
Unit Essential Question(s):	Unit Enduring Understandings:		
<ul style="list-style-type: none"> How does multiplication assist in solving? When is it appropriate to use multiplication for solving problems? 	<ul style="list-style-type: none"> Multiplication is repeated addition Multiplication speeds up and is an efficient strategy when dealing with multiple groups of something 		
Evidence of Learning			
Formative Assessments: Entrance Slips, exit slips, quizzes, question/answer routines, homework, small group work, practice pages, active participation (i.e. whiteboard work student talk)			
Summative/Benchmark Assessment(s): unit/benchmark assessments			
Alternative Assessments: Modified versions of formative and summative assessments, project-based assessment, oral assessment			
Resources/Materials:	Key Vocabulary:		
<ul style="list-style-type: none"> Teacher created binders Teacher created calendars SMARTBOARD Math Textbook Everyday Counts Calendar Math Online Resources (i.e ThinkCentral, Reflex, IXL. Edulastic, BrainPop, etc.) Math Manipulatives 	<ul style="list-style-type: none"> rows columns factor product multiples variable commutative property of multiplication associative property of multiplication identity property of multiplication zero property of multiplication distributive property of multiplication 		
Suggested Pacing Guide			
Lesson Name/Topic	Student Learning Objective(s)	Suggested Tasks/Activities:	Day(s) to Complete
Multiplication Part I			
Introduction to Multiplication	Students will be able to will read and explore multiplication concepts through books and visuals.	<ul style="list-style-type: none"> Read “Too Many Kangaroo Things to Do” (with smart board visuals) Class Discussion: What is multiplication? 	1 day
Equal Groups	Students will be able to determine groups of objects by using Katie Cubes or beans to make equal groups.	<ul style="list-style-type: none"> Guided notes on multiplication vocabulary Model creating equal groups using katie cubes, beans, & digital visuals. Stress the importance of “groups of” 	2 days

		<ul style="list-style-type: none"> • Guided & independent practice • Equal Groups Gallery Walk • Digital equal groups task cards 	
Multiplication as Repeated Addition	Students will be able to develop repeated addition number sentences and relate to concrete models.	<ul style="list-style-type: none"> • Review multiplication vocabulary • Model multiplication as repeated addition or skip counting using katie cubes, beans, & digital visuals • Stress importance that 3×4 is 3 groups of 4 = $4 + 4 + 4$ • Guided & independent practice • Digital repeated addition task cards 	1 day
Model for Area	Students will be able to use rows and columns to find products.	<ul style="list-style-type: none"> • Read “One Hundred Hungry Ants” with smart board visuals • Guided notes on arrays as rows x columns • Brain Pop Video on Arrays • Model arrays using square tiles • Guided & independent practice 	3 days
Commutative Property	Students will be able to identify and use the commutative property of multiplication.	<ul style="list-style-type: none"> • Review addition properties and connect to multiplication properties. • Class discussion: Have student explain the commutative property of addition. What do you think the commutative property of multiplication is? • Model the commutative property of multiplication using square tiles and arrays • Guided & independent practice 	2 days
Fact Practice	Students will begin to memorize x2 multiplication facts through skip counting, various activities, and games.	<ul style="list-style-type: none"> • Introduce 2x Flash Cards • Skip Counting with Beans Activity • Video: Skip Counting by 2s • 2x Fact Families • Create a word problem involving multiplying by 2 • 2x Maze • Games: War & Go Fish • Online digital task cards 	1 day
Identity and Zero Property	Students will be able to model and memorize the rule for multiplying with 1 and 0.	<ul style="list-style-type: none"> • Review addition properties and connect to multiplication properties. 	1 day

of Multiplication		<ul style="list-style-type: none"> • Class discussion: Have students explain the identity property of addition. What do you think the identity property of multiplication is? • Model the identity property using digital visuals • Model the zero-property using digital visuals • Guided & independent practice 	
Review & Assessment	Students will complete an assessment on the basic concepts of multiplication.	<ul style="list-style-type: none"> • Review Game • Assessment 	1 day
Multiplication Part II			
Function Tables	Mathematicians will determine a rule to complete input and output tables utilizing known multiplication facts.	<ul style="list-style-type: none"> • Model input/output tables using digital robot • Provide students with a rule and an input and have them come up with the output • Provide students with a table with variables. Have students determine the rule of the table and establish the missing variables. • Guided & independent practice 	1 day
Unknown Factors	Students will be able to multiply and find the unknown factors in a problem.	<ul style="list-style-type: none"> • Introduce vocabulary word: variable • Modeling finding an unknown variable with multiplication. Model repeated addition, skip counting, or making an array • Guided & independent practice 	1 day
Multiply by 2 & 4	Students will be able to use multiplication strategies with multiples of 2 & 4.	<ul style="list-style-type: none"> • Introduce 4x Flash Cards • Skip Counting with Beans Activity • Video: Skip Counting by 4s • Class Discussion: the 4 times table is double the 2 times table. • 4x Fact Families • Create a word problem involving multiplying by 4 • 4x Maze • Games: War, Go Fish 	1 day
Multiply by 5 & 10	Students will be able to use multiplication strategies with multiples of 5 & 10.	<ul style="list-style-type: none"> • Introduce 5x & 10x Flash Cards • Skip Counting with Beans Activity • Video: Skip Counting by 5s 	1 day

		<ul style="list-style-type: none"> • Video: Skip Counting by 10s • Class Discussion: the 10 times table is double the 5 times table. • 5x Fact Families • 10x Fact Families • Create a word problem involving multiplying by 5 • Create a word problem involving multiplying by 10 • 5x Maze • 10x Maze • Games: War, Go Fish, multiplication bump, product game, multiplication scoot, Kahoot, etc. 	
Distributive Property	<p>Students will be able to</p> <ul style="list-style-type: none"> • complete the distributive property problems using katie cubes with factors like 5×12 • complete the distributive property problems using katie cubes with factors like 5×9. • complete the distributive property problems using the standard algorithm. 	<ul style="list-style-type: none"> • Model the distributive property using katie cubes with factors like 5×12 (break into place value-- tens and ones + color code) • Model the distributive property using katie cubes with factors like 5×9 • Guided & independent practice • Model the using the distributive property using the standard algorithm • Guided & independent practice • Online digital task cards • Distributive Property Ninja Activity 	4 days
Assessment	Students will be able to complete an assessment on the distributive property.	<ul style="list-style-type: none"> • Assessment 	1 day
Multiply by 3 & 6	Students will be able to use multiplication strategies with multiples of 3 & 6.	<ul style="list-style-type: none"> • Introduce 3x & 6x Flash Cards • Skip Counting with Beans Activity • Video: Skip Counting by 3s • Video: Skip Counting by 6s • Class Discussion: the 6 times table is double the 3 times table. • 3x Fact Families • 6x Fact Families • Create a word problem involving multiplying by 3 • Create a word problem involving multiplying by 6 • 3x Maze • 6x Maze 	

		<ul style="list-style-type: none"> • Games: War, Go Fish, multiplication bump, product game, multiplication scoot, Kahoot, etc. 	
Multiply by 8	Students will be able to use multiplication strategies with multiples of 8.	<ul style="list-style-type: none"> • Introduce 8x Flash Cards • Skip Counting with Beans Activity • Video: Skip Counting by 8s • 8x Fact Families • Create a word problem involving multiplying by 8 • 8x Maze • Games: War, Go Fish, multiplication bump, product game, multiplication scoot, Kahoot, etc. 	1 day
Associative Property	Students will be able to learn and apply associative property problems.	<ul style="list-style-type: none"> • Review addition properties and connect to multiplication properties. • Class discussion: Have students explain the associative property of addition. What do you think the associative property of multiplication is? • Model the associative property using digital visuals • Guided & independent practice 	2 days
Multiples of 10	Students will be able to multiply with one-digit numbers and multiples of ten.	<ul style="list-style-type: none"> • Read book "Betcha!" • Model multiplying by multiples of 10 using base-ten blocks and digital visuals • Guided & independent practice 	2 days
Multiply by 9	Students will be able to use multiplication strategies with multiples of 9.	<ul style="list-style-type: none"> • Introduce 9x Flash Cards • Skip Counting with Beans Activity • Video: Skip Counting by 9s • 9x Fact Families • Create a word problem involving multiplying by 9 • 9x Maze • Games: War, Go Fish, multiplication bump, product game, multiplication scoot, Kahoot, etc. 	1 day
Multiply by 7	Students will be able to use multiplication strategies with multiples of 7.	<ul style="list-style-type: none"> • Introduce 7x Flash Cards • Skip Counting with Beans Activity • Video: Skip Counting by 7s • 7x Fact Families 	1 day

		<ul style="list-style-type: none"> • Create a word problem involving multiplying by 7 • 7x Maze • Games: War, Go Fish, multiplication bump, product game, multiplication scoot, Kahoot, etc. 	
Multiply by 11	Students will be able to use multiplication strategies with multiples of 11.	<ul style="list-style-type: none"> • Introduce 11x Flash Cards • Skip Counting with Beans Activity • Video: Skip Counting by 11s • 11x Fact Families • Create a word problem involving multiplying by 11 • 11x Maze • Games: War, Go Fish, multiplication bump, product game, multiplication scoot, Kahoot, etc. 	1 day
Multiply by 12	Students will be able to use multiplication strategies with multiples of 12.	<ul style="list-style-type: none"> • Introduce 12x Flash Cards • Skip Counting with Beans Activity • Video: Skip Counting by 12s • 12x Fact Families • Create a word problem involving multiplying by 12 • 12x Maze • Games: War, Go Fish, multiplication bump, product game, multiplication scoot, Kahoot, etc. 	1 day
Review & Assessment	Students will be able to demonstrate knowledge on the above objectives.	<ul style="list-style-type: none"> • Review Game • Assessment 	2 days
Arithmetic patterns	Students will identify arithmetic patterns in the multiplication table and explain them using properties of operations.	<ul style="list-style-type: none"> • Read “Each Orange had Eight Slices” • Students will draw pictures or use katie cubes to represent each page in the book • Class Discussion: explain how using properties of addition/multiplication can help us solve each problem 	1 day
Multi-Step Word Problems	Students will be able to solve multi-step word problems.	<ul style="list-style-type: none"> • Review BLS Strategy • Model solving two-step word problems by breaking down the problem into multiple steps. Have students select key words around addition, subtraction, or multiplication 	3 days

		<ul style="list-style-type: none"> Guided & independent practice 	
Multiplication Games	Students will utilize multiplication games throughout the process of unit 2 to practice fluency with their facts.	<ul style="list-style-type: none"> Games: War, Go Fish, multiplication bump, product game, multiplication scoot, Kahoot, pink cat games, mystery pictures, blooket, Zap!, etc. 	3 days
Teacher Notes:			
<ul style="list-style-type: none"> Include daily practice of skip counting procedures through chants, games and fluency practice Insert Open ended practice throughout the unit Insert NJSLA like practice problems aligned to these standards and concepts taught throughout the unit 			
Additional Resources:			
<ul style="list-style-type: none"> Literature: Too Many Kangaroo Things to Do!, One Hundred Angry Ants, Amazing Beans, Each Orange had Eight Slices 			
Differentiation/Modification Strategies			
Students with Disabilities		English Language Learners	
<ul style="list-style-type: none"> Consult student IEP Allow errors Rephrase questions, directions, and explanations Allow a calculator when necessary Allow extended time to answer questions, and permit drawing, as an explanation Accept participation at any level, even one word 		<ul style="list-style-type: none"> Consult student ELL Plan Assign a buddy, same language or English speaking Allow errors in speaking Rephrase questions, directions, and explanations Allow extended time to answer questions Accept participation at any level, even one word 	
Gifted & Talented Students		Students at Risk	
<ul style="list-style-type: none"> Consult with G and T teacher Provide extension activities Make peer leaders Build on students' intrinsic motivations Consult with parents to accommodate students' interests in completing tasks at their level of engagement 		<ul style="list-style-type: none"> Consult with I &RS as needed Provide extended time to complete tasks Consult with Guidance Counselors and follow I&RS procedures/action plans Consult with classroom teacher(s) for specific behavior interventions Provide rewards as necessary 	
504 Students		Other:	
<ul style="list-style-type: none"> Consult 504 Plan Allow errors Rephrase questions, directions, and explanations Allow a calculator when necessary Allow extended time to answer questions, and permit drawing, as an explanation Accept participation at any level, even one word Consult with Case Managers and follow 504 			

UNIT #3**Overview****Content Area: Math****Unit Title: Place Value – Division****Grade Level(s): 3**

Core Ideas: Students develop an understanding of division of whole numbers through activities and problems involving equal-sized groups, arrays, and area models; multiplication is finding an unknown product, and division is finding an unknown factor in these situations. Students will solve problems related to equal-sized groups and amount of groups.

Standards (Content and Technology)**CPI#:****Statement:****Performance Expectations (NJSLs)**

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.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. For example, describe and/or represent a context in which a number of shares or a number of groups can be expressed as $56 \div 8$.
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. ¹
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.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 $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.) 6.
3.OA.B.6	Understand division as an unknown-factor problem. For example, find $32 \div 8$ by finding the number that makes 32 when multiplied by 8.
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. By the end of Grade 3, know from memory all products of two one-digit numbers.

SMP.1

Make sense of problems and persevere in solving them

SMP.2

Reason abstractly and quantitatively.

SMP.3

Construct viable arguments and critique the reasoning of others.

SMP.4

Model with mathematics.

SMP.5

Use appropriate tools strategically.

SMP.6

Attend to precision.

SMP.7

Look for and make use of structure.

SMP.8

Look for and express regularity in repeated reasoning.

Career Readiness (9.2) Life Literacies, and Key Skills (standard 9.1, 9.4)

9.2.5.CAP.1

Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.

9.2.5.CAP.2

Identify how you might like to earn an income.

9.4.5.CT.1

Identify and gather relevant data that will aid in the problem-solving process.

9.4.5.CT.4

Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global.

Computer Science and Design Thinking (standard 8)

9.4.5.TL.3

Format a document using a word processing application to enhance text, change page formatting, and include appropriate images graphics, or symbols.

Interdisciplinary Connection			
SL.3.1.B	Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).		
SL.3.1.C	Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.		
SL.3.1.D	Explain their own ideas and understanding in light of the discussion.		
Cross-cultural Statements/Mandates (<i>Amistad, Holocaust, LGBT/Disabilities, SEL, etc...</i>)			
Holocaust: References to this mandate are made by studying Alan Turing. Turing helped the British and its allies win the Second World War by interpreting the Nazi code correctly using patterns and algebra.			
Unit Essential Question(s):		Unit Enduring Understandings:	
<ul style="list-style-type: none"> How are multiplication and division related? What is division and when do we use it? 		<ul style="list-style-type: none"> Multiplication speeds up and is an efficient strategy when dealing with multiple groups of something Division is breaking down a total amount into smaller equal groups We find multiplication and division in real-life and can model it in many ways 	
Evidence of Learning			
Formative Assessments: Entrance Slips, exit slips, quizzes, question/answer routines, homework, small group work, practice pages, active participation (i.e. whiteboard work student talk)			
Summative/Benchmark Assessment(s): unit/benchmark assessments			
Alternative Assessments: Modified versions of formative and summative assessments, project-based assessment, oral assessment			
Resources/Materials:		Key Vocabulary:	
<ul style="list-style-type: none"> Teacher created binders Teacher created calendars SMARTBOARD Math Textbook Everyday Counts Calendar Math Online Resources (i.e ThinkCentral, Reflex, IXL, Edulastic, BrainPop, etc.) Math Manipulatives; Counters, beans, egg cartons, katie cubes 		<ul style="list-style-type: none"> Division Divisor Dividend Quotient Repeated subtraction 	
Suggested Pacing Guide			
Lesson Name/Topic	Student Learning Objective(s)	Suggested Tasks/Activities:	Day(s) to Complete
Introduction to Division	Students will be able to <ul style="list-style-type: none"> Practice using manipulatives to model the act of division. Learn vocabulary associated with division. Write division equations in three different formats. 	<ul style="list-style-type: none"> Read “The Doorbell Rang” (with smart board visuals) Introduce division vocabulary. Model the three formats for division (sentence, fraction, symbol) Guided & independent practice 	1 day
Fair Share	Students will be able to utilize strategy of sharing equally across groups to divide.	<ul style="list-style-type: none"> Read “The Great Divide” Model fair sharing to represent division. Connect to multiplication equations Guided & independent practice 	1 day
Equal Groups	Students will be able to make equal groups to divide.	<ul style="list-style-type: none"> Model creating equal groups using counters Model creating equal groups by drawing pictures 	2 days

Midland Park Public Schools

		<ul style="list-style-type: none"> • Connect to multiplication equations • Guided & independent practice 	
Repeated subtraction	Students will be able to model division through repeated subtraction.	<ul style="list-style-type: none"> • Model repeated subtraction for division using counters • Model repeated subtraction abstractly • Connect to multiplication equations • Brain Pop Video • Guided & independent practice 	1 day
Assessment	Students will be able to complete formative assessment on division.	<ul style="list-style-type: none"> • Assessment 	1 day
Arrays	Students will be able to use arrays to divide.	<ul style="list-style-type: none"> • Model creating arrays to divide using square tiles. Connect to multiplication equations • Model creating arrays by drawing pictures • Guided & independent practice 	2 days
Divide by 2, 3, 4, 5, 9, 10	Students will be able to relate multiplication and division through modeling and writing equations.	<ul style="list-style-type: none"> • Model identify factors and products and relate to division by writing equations • Model relating multiplication and division through modeling and writing equations • Fact families • Guided & independent practice 	5 days
Assessment	Students will be able to complete a “Quick Quiz” from the expressions textbook series.	<ul style="list-style-type: none"> • Assessment 	1 day
Divide by 1 & 0	Students will practice dividing by 1 and 0.	<ul style="list-style-type: none"> • Model rules for dividing by 1 and 0 • Guided & independent practice 	1 day
Word Problems	Students will apply strategies learned by solving division word problems.	<ul style="list-style-type: none"> • Review BLS strategy • Model solving division word problems and writing an equation • Create a list of key division words/phrases from word problems • Guided & independent practice 	3 days
Assessment	Students will be able to complete a “Quick Quiz” from the expressions textbook series.	<ul style="list-style-type: none"> • Assessment 	1 day

Divide by 6, 7, 8, 11, 12	Students will be able to relate multiplication and division through modeling and writing equations.	<ul style="list-style-type: none"> Model identify factors and products and relate to division by writing equations Model relating multiplication and division through modeling and writing equations Fact families Guided & independent practice 	3 days
Open ended Response	Students will be able to complete an open-ended response and translate to the computer.	<ul style="list-style-type: none"> Open ended response 	2 days
Review & Assessment	Students will be able to demonstrate knowledge of unit outcomes.	<ul style="list-style-type: none"> Review game Assessment 	2 days
Division Games	Students will play games throughout the unit to practice division.	<ul style="list-style-type: none"> Games: I have who has, division matching game, war, Go fish, Kahoot, blooket, etc. 	2 days

Teacher Notes:

- Include daily practice of skip counting procedures through chants, games, and fluency practice
- Insert Open ended practice throughout the unit
- Insert NJSLA like practice problems aligned to these standards and concepts taught throughout the unit

Additional Resources:

- GOMath

Differentiation/Modification Strategies

Students with Disabilities	English Language Learners
<ul style="list-style-type: none"> Consult student IEP Allow errors Rephrase questions, directions, and explanations Allow a calculator when necessary Allow extended time to answer questions, and permit drawing, as an explanation Accept participation at any level, even one word Consult with Case Managers and follow IEP 	<ul style="list-style-type: none"> Consult student ELL Plan Assign a buddy, same language or English speaking Allow errors in speaking Rephrase questions, directions, and explanations Allow extended time to answer questions Accept participation at any level, even one word
Gifted & Talented Students	Students at Risk
<ul style="list-style-type: none"> Consult with G and T teacher Provide extension activities Make peer leaders Build on students' intrinsic motivations Consult with parents to accommodate students' interests in completing tasks at their level of engagement 	<ul style="list-style-type: none"> Consult with I &RS as needed Provide extended time to complete tasks Consult with Guidance Counselors and follow I&RS procedures/action plans Consult with classroom teacher(s) for specific behavior interventions Provide rewards as necessary
504 Students	Other:
<ul style="list-style-type: none"> Consult 504 Plan Allow errors Rephrase questions, directions, and explanations Allow a calculator when necessary 	

- | | |
|---|--|
| <ul style="list-style-type: none">• Allow extended time to answer questions, and permit drawing, as an explanation• Accept participation at any level, even one word• Consult with Case Managers and follow 504 | |
|---|--|

UNIT #4**Overview****Content Area: Math****Unit Title: Place Value – Fractions****Grade Level(s): 3**

Core Ideas: The purpose of this unit is to introduce students to fractions. Students were previously exposed to fractions through shapes and regions and will begin to view and present fractions on a number line. Students develop an understanding of fractions, beginning with unit fractions. Students view fractions in general as being built out of unit fractions, and they use fractions along with visual fraction models to represent parts of a whole. Students understand that the size of a fractional part is relative to the size of the whole. Students are able to use reasoning and manipulatives to compare fractions.

Standards (Content and Technology)**CPI#:****Statement:****Performance Expectations (NJSL)**

3.NF.A.1

A. Develop understanding of fractions as numbers.

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.A.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.NF.A.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

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 $1/4$ of the area of the shape.*

SMP.1

Make sense of problems and persevere in solving them

SMP.2

Reason abstractly and quantitatively

SMP.3

Construct viable arguments and critique the reasoning of others

SMP.4

Model with mathematics

SMP.5

Use appropriate tools strategically

SMP.6

Attend to precision

SMP.7

Look for and make use of structure

SMP.8

Look for and express regularity in repeated reasoning

Career Readiness (9.2) Life Literacies, and Key Skills (standard 9.1, 9.4)

9.2.5.CAP.1

Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.

9.2.5.CAP.2

Identify how you might like to earn an income.

9.4.5.CT.1

Identify and gather relevant data that will aid in the problem-solving process.

9.4.5.CT.4

Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global.

Computer Science and Design Thinking (standard 8)			
9.4.5.TL.3	Format a document using a word processing application to enhance text, change page formatting, and include appropriate images graphics, or symbols.		
Interdisciplinary Connection			
SL.3.1.A	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on <i>grade 3 topics and texts</i> , building on others' ideas and expressing their own clearly. Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion.		
SL.3.1.B	Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).		
SL.3.1.C	Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.		
Cross-cultural Statements/Mandates (Amistad, Holocaust, LGBT/Disabilities, SEL, etc...)			
LGBTQ+ Mandate: References to this mandate are made by studying Autumn Kent a pansexual trans woman professor of mathematics at the university of Wisconsin, who in 2019 organized the LGTBQ+ conference to foster collaboration between LGBTQ+ mathematicians working in geometry, topology, and dynamical systems.			
Unit Essential Question(s):		Unit Enduring Understandings:	
<ul style="list-style-type: none"> When are fractions used in our lives? How can we represent fractions using a model? 		<ul style="list-style-type: none"> Fractions are numbers that represent equal parts Fractions are used in linear (number lines) concepts and regional (shapes) concepts Equivalent fractions are equal quantities or take up the same amount of space 	
Evidence of Learning			
Formative Assessments: Entrance Slips, exit slips, quizzes, question/answer routines, homework, small group work, practice pages, active participation (i.e. whiteboard work student talk)			
Summative/Benchmark Assessment(s): unit/benchmark assessments			
Alternative Assessments: Modified versions of formative and summative assessments, project-based assessment, oral assessment			
Resources/Materials:		Key Vocabulary:	
<ul style="list-style-type: none"> Teacher created binders Teacher created calendars SMARTBOARD Math Textbook Everyday Counts Calendar Math Online Resources (i.e ThinkCentral, Reflex, IXL. Edulastic, BrainPop, NearPod, Flocabulary, etc.) Math Manipulatives <ul style="list-style-type: none"> Fraction tiles, fraction circles, Smartpal, katie cubes (linking cubes), pattern blocks, blank number lines, fraction strips and circles (on paper) 		<ul style="list-style-type: none"> Fraction Numerator Denominator Proper fraction Unit fraction Improper fraction Mixed Number 	
Suggested Pacing Guide			
Lesson Name/Topic	Student Learning Objective(s)	Suggested Tasks/Activities:	Day(s) to Complete
Introduction to fractions	Students will be able to <ul style="list-style-type: none"> explore fractions through problem solving and using manipulatives. Build one whole when given the unit fraction Find a unit fraction when given a whole 	<ul style="list-style-type: none"> Guided notes on fraction vocabulary Practice identifying equal parts of a whole Fraction vocabulary sort Fraction BINGO Model concepts of a fraction (numerator and denominator) with katie cubes 	3 days

		<ul style="list-style-type: none"> • Model fractions equal to one whole and fractions greater than one whole using katie cubes • Guided & independent practice 	
Unit Fractions	Students will be able to model the difference between the numerator and the denominator.	<ul style="list-style-type: none"> • Model finding a part when given a whole • Example: A train of 8 cubes, this is $\frac{2}{3}$ of a whole. How many cubes are in the whole? • Guided & independent practice 	1 days
Fractions on a Number Line	Students will be able to <ul style="list-style-type: none"> • identify fractions on a number line. • plot fractions on a number line. 	<ul style="list-style-type: none"> • Model creating a fraction number line by placing fractions (cubes) on a blank number line and marking and labeling the fractional parts • “Don’t commit a fraction crime, count the spaces, not the lines” • Mary’s number line packet part 1 	1 days
Equivalent Fractions	Students will be able to identify equivalent fractions.	<ul style="list-style-type: none"> • Class Discussion: equivalent fractions are fractions that have the same location on the number line. • Create number lines using with fraction strips • Have students use their number lines to compare fractions and create different comparison statements using $<$, $>$, or $=$ • (include number lines that model expressing whole number in the form) 	2 days
Fraction Games	Students will be able to play fraction reinforcement games.	<ul style="list-style-type: none"> • Games: Fraction concentration, fraction war, Go fish 	1 day
Number Lines	Students will be able to partition number lines into halves, thirds, fourths, sixths, & eighths.	<ul style="list-style-type: none"> • Model how to appropriate partition a number line into halves, thirds, fourths, sixths, & eighths • Mary’s number line packet part 2 	1 day
Number line reinforcement	Students will be able to complete a variety of activities to reinforce number line concepts.	<p>Guided & independent practice:</p> <ul style="list-style-type: none"> • Determining the location of the fraction already marked on a number line • Determine and mark a fraction that is less than or 	1 day

		<p>greater than the fraction previously marked</p> <ul style="list-style-type: none"> Given a fraction, create a number line, and locate and mark the location of the fraction Create number lines greater than 1 whole 	
Review and assessment	Students will be able to demonstrate knowledge on the above objectives.	<ul style="list-style-type: none"> Review Game Assessment 	2 days
Equivalent Fractions	Students will be able to identify and create equivalent fractions.	<ul style="list-style-type: none"> Review equivalent fraction concepts (same location on the number line) Introduce second definition (same size or cover the same area) Create fraction reference cards with pattern block pieces Create creatures' activity Build to higher terms using pattern block pieces (worksheet) Reduce or simplify to lower terms using pattern block pieces 	4 days
Compare Fractions	Students will be able to compare fractions with the same denominator.	<ul style="list-style-type: none"> Model comparing two fractions with the same denominator using fraction tiles (Digital) Guided & independent practice Quizziz Online digital task cards 	1 day
Compare Fractions	Students will be able to compare fractions with the same numerator.	<ul style="list-style-type: none"> Model comparing two fractions with the same numerator using fraction tiles (Digital) Guided & independent practice Quizziz Online digital task cards 	2 days
Compare Fractions	Students will be able to compare fractions with the same denominator or the same numerator.	<ul style="list-style-type: none"> Review comparing fractions with a common denominator and numerator Guided & independent practice Online digital task cards Kahoot 	1 day
Word Problems with comparing Fractions	Students will be able to solve word problems involving comparing fractions.	<ul style="list-style-type: none"> Expression textbook pages 	1 day

Review and Assessment	Students will be able to demonstrate knowledge on the above objectives.	<ul style="list-style-type: none"> Review Game Assessment 	2 days
Teacher Notes:			
<ul style="list-style-type: none"> Make a Fraction Flip Book Have students make their own set of fraction strips to use at home 			
Additional Resources:			
<ul style="list-style-type: none"> http://www.fldoe.org/core/fileparse.php/7576/urlt/Grade3FractionUnit.pdf This website offers additional resources and tasks for students to complete along with some formative assessments 			
Differentiation/Modification Strategies			
Students with Disabilities		English Language Learners	
<ul style="list-style-type: none"> Consult student IEP Allow errors Rephrase questions, directions, and explanations Allow a calculator when necessary Allow extended time to answer questions, and permit drawing, as an explanation Accept participation at any level, even one word Consult with Case Managers and follow IEP		<ul style="list-style-type: none"> Consult student ELL Plan Assign a buddy, same language or English speaking Allow errors in speaking Rephrase questions, directions, and explanations Allow extended time to answer questions Accept participation at any level, even one word 	
Gifted & Talented Students		Students at Risk	
<ul style="list-style-type: none"> Consult with G and T teacher Provide extension activities Make peer leaders Build on students' intrinsic motivations Consult with parents to accommodate students' interests in completing tasks at their level of engagement 		<ul style="list-style-type: none"> Consult with I & RS as needed Provide extended time to complete tasks Consult with Guidance Counselors and follow I&RS procedures/action plans Consult with classroom teacher(s) for specific behavior interventions Provide rewards as necessary 	
504 Students		Other:	
<ul style="list-style-type: none"> Consult 504 Plan Allow errors Rephrase questions, directions, and explanations Allow a calculator when necessary Allow extended time to answer questions, and permit drawing, as an explanation Accept participation at any level, even one word Consult with Case Managers and follow 504 			

UNIT #5**Overview****Content Area: Math****Unit Title: Place Value – Area & Perimeter****Grade Level(s): 3**

Core Ideas: In this unit, students recognize area as an attribute of two-dimensional regions. They will use concrete math tools to measure the area of a shape by finding the total number of same size units of area required to cover the shape without gaps or overlaps. Students will connect their knowledge of multiplication to rectangular arrays to solve for area. Students will also solve for the perimeter of shapes. They will apply their fractional knowledge to use rulers to measure side lengths.

Standards (Content and Technology)**CPI#:****Statement:****Performance Expectations (NJSL)**

3.MD.C.5

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

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.
- 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.C.6

Measure areas by counting unit squares (square cm, square m, square in, square ft, and non-standard units).

3.MD.C.7

Relate area to the operations of multiplication and addition.

- 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.
- 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.
- 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.
- 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.D.8

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

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.

SMP.1

Make sense of problems and persevere in solving them

SMP.2

Reason abstractly and quantitatively

SMP.3

Construct viable arguments and critique the reasoning of others

SMP.4

Model with mathematics

SMP.5

Use appropriate tools strategically

SMP.6

Attend to precision

SMP.7

Look for and make use of structure

SMP.8

Look for and express regularity in repeated reasoning

Career Readiness (9.2) Life Literacies, and Key Skills (standard 9.1, 9.4)

9.2.5.CAP.1

Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.

9.2.5.CAP.2

Identify how you might like to earn an income.

9.4.5.CT.1

Identify and gather relevant data that will aid in the problem-solving process.

9.4.5.CT.4

Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global.

Computer Science and Design Thinking (standard 8)

9.4.5.TL.3	Format a document using a word processing application to enhance text, change page formatting, and include appropriate images graphics, or symbols.		
Interdisciplinary Connection			
SL.3.1.A	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on <i>grade 3 topics and texts</i> , building on others' ideas and expressing their own clearly. Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion.		
SL.3.1.B	Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).		
SL.3.1.C	Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.		
Cross-cultural Statements/Mandates (<i>Amistad, Holocaust, LGBT/Disabilities, SEL, etc...</i>)			
Disabilities Mandate: References to this mandate are made by studying Solomon Lefschetz, an amputee and mathematician who did fundamental work on algebraic topology and its applications to algebraic geometry as well as the theory of non-linear ordinary differential equations.			
Unit Essential Question(s):		Unit Enduring Understandings:	
<ul style="list-style-type: none"> How do you find the perimeter of a shape? What shapes can you make when you know the perimeter? How do you find the area of a shape? 		<ul style="list-style-type: none"> Understand the difference between area and perimeter Perimeter is the measurement of the distance around a shape Area is the amount of square units inside a shape Recognize the difference between a linear length (i.e. centimeter) and a square unit (i.e. square centimeter) 	
Evidence of Learning			
Formative Assessments: Entrance Slips, exit slips, quizzes, question/answer routines, homework, small group work, practice pages, active participation (i.e. whiteboard work student talk)			
Summative/Benchmark Assessment(s): unit/benchmark assessments			
Alternative Assessments: Modified versions of formative and summative assessments, project-based assessment, oral assessment			
Resources/Materials:		Key Vocabulary:	
<ul style="list-style-type: none"> Teacher created binders Teacher created calendars SMARTBOARD Math Textbook Everyday Counts Calendar Math Online Resources (i.e ThinkCentral, Reflex, IXL. Edulastic, BrainPop, NearPod, Flocabulary, etc.) Math Manipulatives (toothpicks, square tiles, geoboards, rulers, dot paper, graph paper) 		<ul style="list-style-type: none"> Area Perimeter Variable Composite figure Units Square units Length Width 	
Suggested Pacing Guide			
Lesson Name/Topic	Student Learning Objective(s)	Suggested Tasks/Activities:	Day(s) to Complete
Area & Perimeter Introduction	Students will be able to explore area and perimeter through inquiry- problem solving to develop a real-world understanding.	<ul style="list-style-type: none"> Guided Area and Perimeter Notes & Review Brain Pop Videos Discuss real world applications for perimeter versus area. 	1 day
Modeling perimeter	Students will be able to use toothpicks to model perimeter.	<ul style="list-style-type: none"> Model how perimeter is linear by placing four 1-inch toothpicks around a 1-inch square tile. Draw a number line and mark off 1 inch units and 	2 days

		<p>place the toothpicks on the number line to model how perimeter is linear.</p> <ul style="list-style-type: none"> • Have students create different arrays and find the perimeter using toothpicks. • Toothpick puzzlers 	
Finding perimeter	<p>Students will be able</p> <ul style="list-style-type: none"> • Find the perimeter of figures. • Find the missing side length of a shape when given the perimeter 	<ul style="list-style-type: none"> • Model finding perimeter by counting side lengths • Model finding perimeter by adding all the side lengths together. • Model finding a missing side length when given the perimeter • Guided & independent practice 	3 days
Modeling area	<p>Students will be able to model area using square tiles.</p>	<ul style="list-style-type: none"> • Model area using square tiles. Review area as rows x columns • Have students create their own arrays to find the area of each figure. 	2 days
Finding Area	<p>Students will be able to</p> <ul style="list-style-type: none"> • find the area of a shape by counting the square units. • find the area by multiplying the length times width. • Find missing side lengths when given the area. 	<ul style="list-style-type: none"> • Model finding area by counting the square units • Model finding area by multiplying length x width. (Stress importance of area formula) • Guided & independent practice 	3 days
Area	<p>Students will be able to find the area of a composite figure through decomposing.</p>	<ul style="list-style-type: none"> • Class discussion: composite figures • Model decomposing area into rectangles (arrays) through “letter area” and “staircases” • Guided & independent practice 	2 days
Same Area Different Perimeter	<p>Students will be able to compare shapes that have the same area and different perimeters.</p>	<ul style="list-style-type: none"> • Model finding different perimeters for the same area using square tiles and toothpicks • Example: find different perimeters that have an area of 12 square units. • Guided & independent practice 	1 day
Same Perimeter Different Area	<p>Students will be able to compare shapes that have the same perimeter and different areas.</p>	<ul style="list-style-type: none"> • Model finding different areas for the same perimeter using square tiles and toothpicks • Example: given the perimeter equal to 6 unites 	1 day

		(toothpicks) find different areas	
Application Word Problem	Students will be able to solve area and perimeter application word problems.	<ul style="list-style-type: none"> Guided & independent practice Model breaking down application word problems involving area and perimeter Guided & independent practice 	4 days
Open Ended	Students will complete a word problem and share outcomes with one another	<ul style="list-style-type: none"> Open ended question Class discussion 	1 day
Review & Assessment	Students will be able to demonstrate knowledge on the above objectives.	<ul style="list-style-type: none"> Review Game Assessment 	2 days
Teacher Notes:			
<ul style="list-style-type: none"> N/A 			
Additional Resources:			
GoMath Textbook pages:			
<ul style="list-style-type: none"> Chapter 11 Model Perimeter page 435-436 Find Perimeter page 437-440 EdConnect Practice Test 			
Differentiation/Modification Strategies			
Students with Disabilities		English Language Learners	
<ul style="list-style-type: none"> Consult student IEP Allow errors Rephrase questions, directions, and explanations Allow a calculator when necessary Allow extended time to answer questions, and permit drawing, as an explanation Accept participation at any level, even one word Consult with Case Managers and follow IEP 		<ul style="list-style-type: none"> Consult student ELL Plan Assign a buddy, same language or English speaking Allow errors in speaking Rephrase questions, directions, and explanations Allow extended time to answer questions Accept participation at any level, even one word 	
Gifted & Talented Students		Students at Risk	
<ul style="list-style-type: none"> Consult with G and T teacher Provide extension activities Make peer leaders Build on students' intrinsic motivations Consult with parents to accommodate students' interests in completing tasks at their level of engagement 		<ul style="list-style-type: none"> Consult with I & RS as needed Provide extended time to complete tasks Consult with Guidance Counselors and follow I&RS procedures/action plans Consult with classroom teacher(s) for specific behavior interventions Provide rewards as necessary 	
504 Students		Other:	
<ul style="list-style-type: none"> Consult 504 Plan Allow errors Rephrase questions, directions, and explanations Allow a calculator when necessary Allow extended time to answer questions, and permit drawing, as an explanation Accept participation at any level, even one word Consult with Case Managers and follow 504 			

UNIT #6**Overview****Content Area: Math****Unit Title: Place Value – Calendar Math****Grade Level(s): 3**

Core Ideas: The purpose of this unit is for students to preview and review skills by building readiness for upcoming concepts and learned content. It is supplementary to the units taught and embeds key concepts to support student learning in math class. Students are exposed to and practice all third-grade math standards in a hands-on way or through literature. This is taught outside of the math class period for a suggested timing of 15-minute increments on a daily basis over the course of a month.

Standards (Content and Technology)**CPI#:****Statement:****Performance Expectations (NJSLs)**

3.OA.A.1	A. Represent and solve problems involving multiplication and division. 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.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. <i>For example, describe and/or represent a context in which a number of shares or a number of groups can be expressed as $56 \div 8$.</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. ¹
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 $8 \times ? = 48$, $5 = \square \div 3$, $6 \times 6 = ?$</i>
3.OA.B.5	B. Understand properties of multiplication and the relationship between multiplication and division. Apply properties of operations as strategies to multiply and divide. ² <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>
3.OA.B.6	Understand division as an unknown-factor problem. <i>For example, find $32 \div 8$ by finding the number that makes 32 when multiplied by 8.</i>
3.OA.C.7	C. Multiply and divide within 100. 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. By the end of Grade 3, know from memory all products of two one-digit numbers.
3.OA.D.8	D. Solve problems involving the four operations, and identify and explain patterns in arithmetic. 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
3.OA.D.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. <i>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.</i>
3.NF.A.1	A. Develop understanding of fractions as numbers. 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.A.2	Understand a fraction as a number on the number line; represent fractions on a number line diagram.

	<p>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.</p> <p>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.</p>
3.NF.A.3	<p>3. Explain equivalence of fractions in special cases and compare fractions by reasoning about their size.</p> <p>a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.</p> <p>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.</p> <p>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></p> <p>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</p>
3.MD.A.1	<p>A. Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.</p> <p>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>
3.MD.A.2	<p>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.⁷</p>
3.MD.B.3	<p>B. Represent and interpret data.</p> <p>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. <i>For example, draw a bar graph in which each square in the bar graph might represent 5 pets.</i></p>
3.MD.B.4	<p>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.</p>
3.MD.C.5	<p>C. Geometric measurement: understand concepts of area and relate area to multiplication and to addition.</p> <p>5. Recognize area as an attribute of plane figures and understand concepts of area measurement.</p> <p>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.</p> <p>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.</p>
3.MD.C.6	<p>Measure areas by counting unit squares (square cm, square m, square in, square ft, and non-standard units).</p>
3.MD.C.7	<p>Relate area to the operations of multiplication and addition.</p> <p>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.</p> <p>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.</p> <p>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.</p>

	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.
3.MD.D.8	D. Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures. 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.A.1	A. Reason with shapes and their attributes. 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. <i>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.</i>
SMP.1	Make sense of problems and persevere in solving them
SMP.2	Reason abstractly and quantitatively
SMP.3	Construct viable arguments and critique the reasoning of others
SMP.4	Model with mathematics
SMP.5	Use appropriate tools strategically
SMP.6	Attend to precision
SMP.7	Look for and make use of structure
SMP.8	Look for and express regularity in repeated reasoning
Career Readiness (9.2) Life Literacies, and Key Skills (standard 9.1, 9.4)	
9.2.5.CAP.1	Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.
9.2.5.CAP.2	Identify how you might like to earn an income.
9.1.5. EG.4	Describe how an individual's financial decisions affect society and contribute to the overall economy.
9.1.5.FP.3	Analyze how spending choices and decision-making can result in positive or negative consequences.
9.4.5.CT.1	Identify and gather relevant data that will aid in the problem-solving process.
Computer Science and Design Thinking (standard 8)	
9.4.5.TL.3	Format a document using a word processing application to enhance text, change page formatting, and include appropriate images graphics, or symbols.
Interdisciplinary Connection	
SL.3.1.A	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on <i>grade 3 topics and texts</i> , building on others' ideas and expressing their own clearly. Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion.
SL.3.1.B	Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
SL.3.1.C	Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.
Cross-cultural Statements/Mandates (Amistad, Holocaust, LGBT/Disabilities, SEL, etc...)	
Amistad Mandate: References to this mandate are made by studying Benjamin Banneker, an African American who build America's first clock.	
Unit Essential Question(s):	Unit Enduring Understandings:
<ul style="list-style-type: none"> What mental math strategies support solving addition and subtraction problems? How is multiplication more efficient than addition? 	<ul style="list-style-type: none"> Numbers and quantities can be manipulated to add and subtract with ease Multiplication involves grouping items or objects together

<ul style="list-style-type: none"> • How can I collect and organize data? • Are area and perimeter always equal or can they be different? • How can a pattern be described? • How can we keep track of time? • How can we describe different two- and three-dimensional shapes? 	<ul style="list-style-type: none"> • Information can be collected through surveys and tally charts and presented in a graph • Figures and/or shapes can have the same area, but different perimeters • Patterns can be described through shape, color, size, and frequency • We can keep track of time to the one, five, quarter and half hour increments using a clock • Three-dimensional shapes have three attributes (length, width, height) • Two-dimensional shapes typically have a name • Polygons are closed shapes with one interior, made of straight lines • Quadrilaterals are a four-sided figure
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Evidence of Learning

Formative Assessments: Entrance Slips, exit slips, quizzes, question/answer routines, homework, small group work, practice pages, active participation (i.e. whiteboard work student talk)

Summative/Benchmark Assessment(s): unit/benchmark assessments, Calendar Math monthly assessments

Alternative Assessments: Modified versions of formative and summative assessments, project-based assessment, oral assessment

Resources/Materials:

- Teacher created binders
- Teacher created calendars
- SMARTBOARD
- Math Textbook
- Everyday Counts Calendar Math
- Online Resources (i.e ThinkCentral, Reflex, IXL, Edulastic, BrainPop, NearPod, Flocabulary, etc.)
- Math Manipulatives (i.e. linking cubes, base ten blocks, geometric solids, pattern blocks, weights, pan-balance scale, toothpicks, square tiles, timers, counters, clocks, rulers, tangrams, money, graphing small and large chart paper, number lines, elapsed time number lines)

Key Vocabulary:

- **September:** odd, even, multiples, polygon, regular polygon, irregular polygon, penny, nickel, dime, quarter
- **October:** odd, even, multiples, penny, nickel, dime, quarter, A.M., P.M., length, & customary
- **November:** odd, even, multiples, penny, nickel, dime, quarter, A.M., P.M., quadrilaterals, flowchart
- **December:** odd, even, multiples, penny, nickel, dime, quarter, A.M., P.M., area, & perimeter
- **January:** odd, even, multiples, penny, nickel, dime, quarter, A.M., P.M., customary, & capacity
- **February:** odd, even, multiples, penny, nickel, dime, quarter, A.M., P.M., growing pattern
- **March:** odd, even, multiples, penny, nickel, dime, quarter, A.M., P.M., customary, weight, three-dimensional shapes
- **April:** odd, even, multiples, penny, nickel, dime, quarter, A.M., P.M., elapsed time metric, weight, capacity
- **May/June:** odd, even, multiples, penny, nickel, dime, quarter, A.M., P.M., elapsed time, tangrams

Suggested Pacing Guide

Lesson Name/Topic	Student Learning Objective(s)	Suggested Tasks/Activities:	Day(s) to Complete
September	Students will be able to <ul style="list-style-type: none"> • Develop number sense • Practice mental math strategies for addition and subtraction • Recognize odd, even, and multiples patterns on a calendar • Group and count by 2 & 3 	Calendar <ul style="list-style-type: none"> • Pattern on calendar: Recognize patterns of multiples of 2 and 3, explore even and odd numbers and examine rotation of two-dimensional shapes 	One month

	<ul style="list-style-type: none"> • Know coin values and coin equivalences • Count mixed coins • Analyze patterns on a calendar • Compare and analyze attributes of polygons 	<ul style="list-style-type: none"> • Skip counting- build a color-coded counting stick for both 2's and 3's, develop chants, and create language-based patterns <p>Daily Depositor</p> <ul style="list-style-type: none"> • Count the days of school and add up on the daily depositor and using penny coins • Develop coin combinations for daily amount • Include fractions for the days of school out of 100 • Know and apply even and odd numbers <p>Activities</p> <ul style="list-style-type: none"> • Play Monster Squeeze- Number fluency • Reference Hundred Board book <ul style="list-style-type: none"> ○ Add and subtract friendly numbers <p>Geometry</p> <ul style="list-style-type: none"> • Polygons- review attributes and begin creating a flowchart; use Exploragons and Geoboards for exploration 	
<p>October</p>	<p>Students will be able to</p> <ul style="list-style-type: none"> • Develop number sense • Practice mental math strategies for addition and subtraction • Recognize odd, even, and multiples patterns on a calendar • Group and count by 2 & 5 • Know coin values and coin equivalences • Count mixed coins • Analyze patterns on a calendar • Identify time on a clock • Compute problems involving customary units of length 	<p>Calendar</p> <ul style="list-style-type: none"> • Pattern on calendar: A,B,A,B,C • Review multiples of 2's and 5's according to dot placed on • Develop patterns with body motions and mimic pattern using a variety of language (fruits, vegetables, animals, etc.) <p>Clock concepts</p> <ul style="list-style-type: none"> • Tell time to the hour. Students will understand A.M. and P.M. and learn to tell time accurately to the hour <p>Daily depositor</p> <ul style="list-style-type: none"> • Determine daily sum, complete standard, word, and expanded form. Round to the nearest 10, 100, and 1000. <p>Measurement</p> <ul style="list-style-type: none"> • Students will develop length references using inches, feet, and yards. Display "big 	<p>One month</p>

		<p>foot” and “yard” models around the room.</p> <p>Math packets from Groundworks</p> <ul style="list-style-type: none"> ● Place it Right ● Grid Sums ● Globs of Goo <p>Activities</p> <ul style="list-style-type: none"> ● Hundred Board Book pages 7-12, 14-15, 22, 24-26 <p>Literature</p> <ul style="list-style-type: none"> ● The Greedy Triangle 	
November	<p>Students will be able to</p> <ul style="list-style-type: none"> ● Develop number sense ● Practice mental math strategies for addition and subtraction ● Recognize odd, even, and multiples patterns on a calendar ● Group and count by 2 & 3 ● Know coin values and coin equivalences ● Count mixed coins ● Analyze patterns on a calendar ● Identify time on a clock ● Compare and analyze attributes of quadrilaterals 	<p>Calendar</p> <ul style="list-style-type: none"> ● Recognize patterns of multiples of 2 and 3, explore even and odd numbers and examine rotation of two-dimensional shapes <p>Counting Stick</p> <ul style="list-style-type: none"> ● Skip counting- build a color-coded counting stick for both 2’s and 3’s, develop chants, and create language-based patterns <p>Geometry (shapes)</p> <ul style="list-style-type: none"> ● Polygons- review attributes and create a flowchart; use Exploragons and Geoboards for exploration <p>Daily Depositor</p> <ul style="list-style-type: none"> ● Count the days of school and add up on the daily depositor and using penny coins ● Include fractions for the days of school out of 100 ● Monster Squeeze- Number fluency <p>Literature</p> <ul style="list-style-type: none"> ● Too Many Kangaroo Things to Do! ● One Hundred Angry Ants ● Amazing Beans ● Each Orange had Eight Slices 	One month
December	<p>Students will be able to</p> <ul style="list-style-type: none"> ● Develop number sense ● Practice mental math strategies for addition and subtraction ● Recognize odd, even, and multiples patterns on a calendar ● Group and count by 2 & 5 ● Know coin values and coin equivalences ● Count mixed coins ● Analyze patterns on a calendar 	<p>Calendar</p> <ul style="list-style-type: none"> ● Review multiples of 2’s and 5’s according to dot placed on calendar ● Develop patterns with body motions and mimic pattern using a variety of language (fruits, vegetables, animals, etc.) <p>Measurement (clock)</p> <ul style="list-style-type: none"> ● Tell time to the 5-minute increment. 	One month

	<ul style="list-style-type: none"> Identify the time on a clock Understand and solve problems involving area and perimeter 	<ul style="list-style-type: none"> As a class build arrays on grid paper. Determine the area. Discuss prime and composite numbers. <p>Daily depositor</p> <ul style="list-style-type: none"> Determine daily sum, complete standard, word, and expanded form. Round to the nearest 10, 100, and 1000. 	
January	<p>Students will be able to</p> <ul style="list-style-type: none"> Develop number sense Practice mental math strategies for addition and subtraction Recognize odd, even, and multiples patterns on a calendar Group and count by 6 Know coin values and coin equivalences Count mixed coins Analyze patterns on a calendar Identify the time on a clock Estimate and compute problems involving customary capacity 	<p>Calendar</p> <ul style="list-style-type: none"> Pattern: A,B,B Color: red, red, yellow Multiples of 6 Shape: trapezoid, trapezoid, hexagon <p>Counting stick</p> <ul style="list-style-type: none"> skip counting by 6 <p>Coin Counter</p> <ul style="list-style-type: none"> Roll dice to make and compare large and small 3-digit numbers Roll dice to solve sum and differences in money amounts Flip a deck of cards to build three-digit numbers to add and subtract <p>Measurement- Capacity</p> <ul style="list-style-type: none"> Relate cups, quarts, pints through hands on models and drawing models (reference Calendar Math Resources) <p>Math packets from Groundworks-</p> <ul style="list-style-type: none"> Be a Detective! On the Level Grids <p>Hundred Board Book Activities- pages 62-63</p>	One month
February	<p>Students will be able to</p> <ul style="list-style-type: none"> Develop number sense Practice mental math strategies for addition and subtraction Recognize odd, even, and multiples patterns on a calendar Group and count by 2, 3, 4, 5, 6 Know coin values and coin equivalences Count mixed coins Analyze patterns on a calendar Identify the time on a clock 	<p>Students will explore a growing pattern for the first time this year. Please see pages 102-103 in the Calendar Math Teacher's Guide.</p> <p>Calendar Work</p> <ul style="list-style-type: none"> Use pattern pieces for March- growing pattern (AB,ABB,ABBB,ABBBBB) Shape: Triangle, square; triangle square square Patterns into body motions Build similar patterns using classroom objects 	One month

		<ul style="list-style-type: none"> ● Mimic pattern using a variety of language (fruits, vegetables, animals, etc.) ● Days of the week ● Months of the year <p>Counting Stick</p> <ul style="list-style-type: none"> ● Skip counting by 8's ● Compare and Contrast counting stick of 6 and counting sticks of 2,3,4,5, and 6 to see patterns (common multiples) ● Chorally have students respond to the highlighted values in the counting sticks previously discussed. Front-load multiplication language of "One group of two, two groups of 2, three groups of 2, etc. <p>Coin Counter/ Money</p> <ul style="list-style-type: none"> ● Addition and subtraction with decimals ● The goal is to reinforce addition and subtraction of 3 digits in a decimal format. Create a way to generate two different dollar amounts (e.g. roll dice to record numbers, place values in a bag and select two sets of 3 values, students volunteer different amounts, etc.) Have students calculate the sum and difference between two different dollar amounts. ● The focus is on aligning money correctly using a decimal point <p>Present problems vertically as in the past. Also include horizontal format so students have to rewrite the problem in order to solve accurately.</p>	
<p>March</p>	<p>Students will be able to</p> <ul style="list-style-type: none"> ● Develop number sense ● Practice mental math strategies for addition and subtraction ● Recognize odd, even, and multiples patterns on a calendar ● Group and count by 2, 3, 4, 5, 6, 9 ● Know coin values and coin equivalences ● Count mixed coins 	<p>*Use January pieces for this month</p> <p>Students will examine three-dimensional figures: rectangular prisms, cubes, pyramids, cylinders, cones, and spheres</p> <ul style="list-style-type: none"> ● Pattern by color: A,A,B,C,D,E ● Pattern by shape: A,B,C,D,E,F <p>Counting stick:</p>	<p>One month</p>

	<ul style="list-style-type: none"> Analyze patterns on a calendar Identify the time on a clock Compare and analyze attributes of three-dimensional shapes Estimate and compute problems involving customary units of weight 	<ul style="list-style-type: none"> Build counting stick skip counting by 9 up to 30. Compare/ Contrast counting stick of 9 and 2, 3, 5 and 6 to see patterns (common multiples) <p>Measurement- Weight</p> <ul style="list-style-type: none"> Convert ounces to pounds (16 ounces= 1 pound) Clock: students practice telling time to the nearest minute Graphing: Form a question, collect data, analyze data, represent in the form of bar graph, scaled bar graph, or line plot. Develop and respond questions “how many more”; “how many less” <p>Coin Counter/ Money</p> <ul style="list-style-type: none"> Addition and subtraction with decimals The goal is to reinforce addition and subtraction of 3 digits in a decimal format. Create a way to generate two different dollar amounts (e.g. roll dice to record numbers, place values in a bag and select two sets of 3 values, students volunteer different amounts, etc.) Have students calculate the sum and difference between two different dollar amounts. The focus is on aligning money correctly using a decimal point Present problems vertically as in the past. Also include horizontal format so students have to rewrite the problem in order to solve accurately. 	
<p>April</p>	<p>Students will be able to</p> <ul style="list-style-type: none"> Develop number sense Practice mental math strategies for addition and subtraction Recognize odd, even, and multiples patterns on a calendar Group and count by 2, 3, 4, 5, 6, 7, 9 	<p>*Use the pattern pieces for the month of May/June</p> <p>Daily Depositor</p> <ul style="list-style-type: none"> Use estimation and mental math Express large numbers in various notations <p>Counting stick</p> <ul style="list-style-type: none"> Building “counting stick” that models skip counting by 	<p>One month</p>

	<ul style="list-style-type: none"> • Know coin values and coin equivalences • Count mixed coins • Analyze patterns on a calendar • Identify the time on a clock • Estimate and compute problems involving metric units of weight and capacity • Determine the elapsed time 	<p>7 up to and including 30 cubes-- add one cube of the appropriate color per day</p> <ul style="list-style-type: none"> • Contrast counting stick of 7 and 2, 3, 5, 6 and 9 to see patterns (common multiples) <p>Coin Counter/ Money</p> <ul style="list-style-type: none"> • Addition and subtraction with decimals • The goal is to reinforce addition and subtraction of 3 digits in a decimal format. Create a way to generate two different dollar amounts (e.g. roll dice to record numbers, place values in a bag and select two sets of 3 values, students volunteer different amounts, etc.) Have students calculate the sum and difference between two different dollar amounts. • The focus is on aligning money correctly using a decimal point • Present problems vertically as in the past. Also include horizontal format so students must rewrite the problem to solve accurately. <p>Measurement- Weight & Capacity</p> <ul style="list-style-type: none"> • Clock: solve elapsed time problems (problem types- find: start time, end time or elapsed time) • Measure using grams. • Suggested Activity #1- Students estimate the amount of liquid in liters in two large clear containers, using one-liter container as a benchmark for their estimates. Students pour the liquid from the containers one at a time into the one-liter container to accurately measure each liquid volume. Students compare estimates with actual measurements and add the liquid volumes to determine the sum. • Suggestion Activity #2- Students estimate the mass of two objects in grams and kilograms, using a gram and 	
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		<p>kilogram weight as a benchmark. Students use balance scales to find the actual mass of the two objects and compare estimates to actual measurements. Students add the two masses together to determine the sum.</p> <p>Utilize balances, gram/measurement pieces, or everyday objects with equal masses. The students will be able to add 100 grams a day to build a kilogram. Use thousandths grids to have students name and visualize grams as a fractional piece of a kilogram.</p>	
May & June	<p>Students will be able to</p> <ul style="list-style-type: none"> • Develop number sense • Practice mental math strategies for addition and subtraction • Recognize odd, even, and multiples patterns on a calendar • Group and count by 2, 3, 4, 5, 6, 7, 8, 9 • Know coin values and coin equivalences • Count mixed coins • Analyze patterns on a calendar • Identify the time on a clock • Determine the elapsed time • Solve puzzles using tangrams 	<p>Continue to review and solidify concepts explored this year and work towards mastery.</p> <p>Tangrams- includes a variety of skills. See below.</p> <p>Literature</p> <ul style="list-style-type: none"> • Read Grandfather Tang's Story <p>Measurement/ Shapes</p> <ul style="list-style-type: none"> • Solve word problems using tangrams. Assign a value for shapes and determine the total amount. Can include the four operations (addition, subtraction, multiplication, division) and include fractional concepts • Review flags and determine the fractional amounts represented by each color 	One month

Teacher Notes:

Students will engage in Everyday Counts Calendar Math to reinforce and preview concepts. This is an opportune time to incorporate read alouds into the math curriculum.

When building counting sticks, select one color to be the base color (across any and all counting sticks) the color that should change is the multiple. For example, select white for the base and another color for the multiples (multiples of 2 white, pink, white, pink; for multiples of 5-- white, white, white, white, green, white, white, white, white, green)

- The routine for Calendar Math can be taught and followed to students. Students can assume the responsibility of leading the class. Students can complete Calendar math on paper, in SmartPals, or through online submissions on Google Classroom to help vary routine and support application of concepts.

Additional Resources:

- N/A

Differentiation/Modification Strategies

Students with Disabilities

- Consult student IEP
- Allow errors

English Language Learners

- Consult student ELL Plan

Midland Park Public Schools

<ul style="list-style-type: none"> • Rephrase questions, directions, and explanations • Allow a calculator when necessary • Allow extended time to answer questions, and permit drawing, as an explanation • Accept participation at any level, even one word <p>Consult with Case Managers and follow IEP</p>	<ul style="list-style-type: none"> • Assign a buddy, same language or English speaking • Allow errors in speaking • Rephrase questions, directions, and explanations • Allow extended time to answer questions • Accept participation at any level, even one word
<p>Gifted & Talented Students</p>	<p>Students at Risk</p>
<ul style="list-style-type: none"> • Consult with G and T teacher • Provide extension activities • Make peer leaders • Build on students' intrinsic motivations • Consult with parents to accommodate students' interests in completing tasks at their level of engagement 	<ul style="list-style-type: none"> • Consult with I &RS as needed • Provide extended time to complete tasks • Consult with Guidance Counselors and follow I&RS procedures/action plans • Consult with classroom teacher(s) for specific behavior interventions • Provide rewards as necessary •
<p>504 Students</p>	<p>Other:</p>
<ul style="list-style-type: none"> • Consult 504 Plan • Allow errors • Rephrase questions, directions, and explanations • Allow a calculator when necessary • Allow extended time to answer questions, and permit drawing, as an explanation • Accept participation at any level, even one word • Consult with Case Managers and follow 504 	