

BURCH CHARTER SCHOOL OF EXCELLENCE

2020-2021

Mathematics – Grade 3

Approved by the Burch Charter School of Excellence Board of Trustees

August 2020

MISSION STATEMENT OF BURCH CHARTER SCHOOL OF EXCELLENCE:

Burch Charter School of Excellence (BCSE) was founded in September, 2008. Our primal mission is to enable students to reach their intellectual and personal potential. We strive to instill integrity and respect in our students' in partnership with families and the community. We maintain a blended learning environment that enhances positive character traits that ensures our students become productive 21st century world citizens. The Burch Charter School of Excellence, a public school, is committed to providing best practices for educating our students in an environment that enables them to develop into critical thinkers that evolve into digital, life-long learners. Our curriculum emphasizes literacy and mathematics infused with technology.

We believe:

- Our students will be effective communicators, quality producers, self-directed lifelong learners, community contributors, collaborative workers and complex thinkers;
- All students are entitled to opportunities to maximize their talents and abilities;
- Our ethnic and cultural diversity is our strength and prepares students for success in a global society;
- Setting high expectations for students, teachers and administrators ensures that our students successfully meet or exceed the New Jersey Student Learning Standards.
- Parents are essential partners in the education of their children;
- Maintaining a strong partnership with the Irvington community is integral to student success;
- Understanding, implementing and responding to current trends in technology is intrinsic to success in a 21st century world; In ensuring that the district has a well-trained, highly qualified and competent staff; In maintaining a safe and secure learning environment.

The underlying values and principles that drive our mission and vision are our personal responsibility, a strong work ethic, cooperation, respect for others, honesty, integrity and the firm belief that every child can learn.

Grade: Third	Content: Mathematics
Unit: 1	Time Frame: 43-45 days

New Jersey Learning Standards Operations and Algebraic Thinking	Mathematical Practice	Critical Knowledge & Skills
 3.OA.A.1. Interpret products of whole numbers, e.g., interpret 5 x 7 as the total number of objects in 5 groups of 7 objects each. For example, describe and/or represent a context in which a total number of objects can be expressed as 5 x 7. Essential Questions: How can I solve multiplication equations by using equal groups? 	MP 2 Reason abstractly and quantitatively. MP.4 Model with mathematics.	 Multiplication is a means to determine the total number of objects when there are a specific number of groups with the same number of objects in each group. Multiplication gives the same result as repeated addition. Product of two whole numbers is the total number of objects in a number of equal groups. Interpret products of whole numbers as a total number of objects. Use repeated addition to find the total number of objects arranged in an array and in equal groups and compare to the result of multiplication. Describe a context in which a total number of objects is represented by a product. Interpret the product in the context of a real-world problem.
3.OA.A.2. Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe and/or represent a context in which a number of shares	MP 2 Reason abstractly and quantitatively. MP.4 Model with mathematics.	 Division is a means to finding equal groups of objects. Division gives the same result as repeated subtraction. Quotient of two whole numbers is the number of objects in each share when objects are grouped equally into shares. Quotient of two whole numbers is the number of shares when objects are grouped into equal shares of objects.

or a number of groups can be expressed as 56 ÷ 8. Essential Question" • How can I solve division problems using equal shares? • How can I use multiplication and division to solve real-word problems?		 Interpret division of whole numbers as a number of equal shares or the number of groups when objects are divided equally. Use repeated subtraction to find the number of shares or the number of groups and compare to the result of division. Describe a context in which the number of shares or number of groups is represented with division. Interpret the quotient in the context of a real-world problem.
 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. *(benchmarked) Essential Question: How can I use multiplication and division to solve real-world problems? 	MP.1 Make sense of problems and persevere in solving them. MP.4 Model with mathematics.	 Multiply to solve word problems involving equal groups and arrays. Divide to solve word problems involving equal groups and arrays. Represent a word problem with a drawing showing equal groups, arrays, equal shares, and/or total objects. Represent a word problem with an equation.
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 $8 \times ? = 48$, $5 = \div 3$, $6 \times 6 = ?$.	MP 2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure.	 Equal sign indicates that the value of the numerical expressions on each side are the same. Unknown in an equation (4 x = 20 and 20 = ? x 4) represents a number. Unknown can be in different positions. Letters can represent numbers in equations. Determine which operation is needed to find the unknown. Multiply or divide, within 100, to find the unknown whole number in a multiplication or division equation.

Essential Question:	MP.3 Construct viable arguments and critique the reasoning of others. MP.6 Attend to precision. MP.7 Look for and make use of structure.	 Division can be represented as a multiplication problem having an unknown factor. Relationships between factors, products, quotients, divisors and dividends. Write division number sentences as unknown factor problems. Solve division of whole numbers by finding the unknown factor.
	I Can St	atements:

- I can understand multiplication by thinking about groups of objects.
- I can understand division by thinking about how one group can be divided into smaller groups.
- I can use what I know about multiplication and division to solve word problems.
- I can find the missing number in a multiplication or division equation
- I can use the commutative property of multiplication. (I know that if $6 \times 4 = 24$, then $4 \times 6 = 24$).
- I can use the associative property of multiplication. (To figure out 3 x 5 x 2, I can multiply 3 x 5=15,
- then $15 \times 2 = 30$ OR multiply $5 \times 2 = 10$, then $3 \times 10 = 30$.)
- I can find the answer to a division problem by thinking of the missing factor in a multiplication problem
- (I can figure out $32 \div 8$ because I know that $8 \times 4 = 32$.)

 3.MD.C.5. Recognize area as an attribute of plane figures and understand concepts of area measurement. 3.MD.C.5a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. 3.MD.C.5b. 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. Essential Questions: How can I measure to the nearest inch, half inch and quarter inch? How can I measure to the nearest centimeter? 	MP 2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.7 Look for and make use of structure.	 Area is the amount of space inside the boundary of a (closed) figure. 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. Plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units area can be found by covering a figure with unit squares. Area of a figure can be determined using unit squares of other dimensions. Count unit squares in order to measure the area of a figure. Use unit squares of centimeters, meters, inches, feet, and other units to measure area.
 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. 3.MD.C.7a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. 	MP.4 Model with mathematics. MP.5 Use appropriate tools strategically.	 Area of a rectangle is found by multiplying the side lengths. Area of a rectangle may be found by tiling. Tile a rectangle with unit squares. Multiply side lengths of a rectangle to find its area and compare the result to that found by tiling the rectangle with unit squares. Solve real world and mathematical problems involving measurement. Represent a rectangular area as the product of whole-numbers.

	Carried	diditi remplate	
3.MD.C.7b. 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.		Learning Goal 7: Tile a rectangle to find its area and explain the relationship between tiling and multiplying side lengths to find the area of rectangles; solve real world problems by multiplying side lengths to find areas of rectangles.	
 Essential Questions: How can I find the area of a rectilinear figure? How can I use the concept f perimeter and area to solve real world problems? 			
	I Can Statements		
 I can measure length to the nearest inc I can measure length to the nearest cer I can measure areas by counting unit s I can measure area by using what I kn 	ntimeter.		
3.NBT.A.1. Round whole numbers to the nearest 10 or 100.	MP 2 Reason abstractly and quantitatively.	 Concept(s): Rounding leads to an approximation or estimate. Use number lines and a hundreds charts to explain rounding numbers to the nearest 10 and 100. Round a whole number to the nearest 10. Round a whole number to the nearest 100. 	

3.NBT.A.1. Round whole numbers

to the nearest 10 or 100.

MP 2 Reason abstractly and

quantitatively.

Learning Goal 8: Round whole numbers to the nearest 10 or 100.

Rounding leads to an approximation or estimate.

• Use number lines and a hundreds charts to explain rounding numbers to the

How can I round whole numbers to estimate sums and differences?		nearest 10 and 100. Round a whole number to the nearest 10. Round a whole number to the nearest 100.
3.NBT.A.3. Multiply one-digit whole numbers by multiples of 10 in the range 10 to 90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.	MP 2 Reason abstractly and quantitatively.	 Multiples of 10 can be represented as a specific number of groups of ten. Multiply to determine the total number of groups of ten. Multiply one-digit whole numbers by multiples of 10.
 Essential Question: How can I order a set of whole numbers? How can I multiply one-digit whole numbers by two-digit multiples of 10? 		

I Can Statement

- I can round numbers to the nearest ten or 100.
- I can add and subtract numbers within 1000.
- I can quickly and easily multiply any one-digit whole number by 10.
- I can order a set of whole numbers from greatest to least or least to greatest

Resources

https://sso.rumba.pk12ls.com/

EnvisionMath

- Benchmarks Assessments
- · Fluency Practice
- · Vocabulary Review
- Topic Assessments

www.mobymax.com www.iready.com www.abcya.com www.khanacedmy.com www.funbrain.com

www.splashlearn.com

Differentiated Instruction

(content, process, product and learning environment)		
At Risk Students	English Language Learners	
Modifications for Classroom	Modifications for Classroom	
Pair visual prompts with verbal presentations Use of lab or experiments to give visual representation of concept Ask students to restate information, directions, and assignments. Work within group or partners	Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary) Preteach vocabulary Use graphic organizers or other visual models Use of manipulatives to	
Repetition and practice Model skills / techniques to be mastered.	visualize concept Highlight key vocabulary-chart or vocabulary bank	
Use metacognitive work Extended time to complete class work Provide copy of class notes Student may request to use a computer to complete assignments. Use manipulatives to examine concepts	Use of nonverbal responses (thumbs up/down) Use sentence frames Design questions for different proficiency levels Utilize partners and partner talk	
Assign a peer helper in the class setting Provide oral reminders and check student work during independent work time		
Special Education	Gifted and Talented	

Modifications for Classroom

Pair visual prompts with verbal presentations

Use of lab or experiments to give visual representation of concept

Ask students to restate information, directions, and assignments.

Preteach vocabulary

Repetition and practice

Model skills / techniques to be mastered.

Use manipulatives and visual representation to examine Breakdown large assignments into smaller tasks

Extended time to complete class work

Provide copy of class notes

Preferential seating to be mutually determined by the student and teacher

Use of online component of book

Extra textbooks for home. Student may request books on tape / CD / digital media, as available and appropriate.

Assign a peer helper in the class setting

Provide oral reminders and check student work during independent work time

Assist student with long and short term planning of assignments

Extension Activities

Conduct research and provide presentation of cultural topics.

Design surveys to generate and analyze data to be used in discussion.

Use of Higher Level Questioning Techniques

Provide assessments at a higher level of thinking

Create alternative assessment which requires writing, research and presentation

Third Grade		Content: Mathematics
Unit 2		Time Frame: 43-45 Days
New Jersey Learning Standards	Mathematical Practice	Skills
 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. *(benchmarked) Essential Questions: How can I solve multiplication equations by using equal groups? How can I solve the unknown number in a multiplication or division by relating the three numbers? 	MP.1 Make sense of problems and persevere in solving them. MP.4 Model with mathematics.	 Multiply to solve word problems involving arrays and measurement quantities (area). Divide to solve word problems involving arrays and measurement quantities (area). Rrepresent a word problem with a drawing or array. Represent a word problem with an equation.
3.OA.B.5. Apply properties of operations as strategies to multiply and divide. Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of	MP.3 Construct viable arguments and critique the reasoning of others. MP.5 Use appropriate tools strategically.	 Properties are rules about relationships between numbers. Changing the order of factors does not change the result of multiplication. Changing the order of numbers does change the result of division. Area of a rectangle with whole-number side lengths a and b + c is the sum of a ×

Third Grade		Content: Mathematics
Unit 2		Time Frame: 43-45 Days
New Jersey Learning Standards	Mathematical Practice	Skills
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.) *[Students need not use the formal terms for these properties.] *[Limit to single digit factors and multipliers. $7 \times 4 \times 5$ would exceed grade 3 expectations because it would result in a two-digit multiplier (28×5)] Essential Questions: How can I use properties of multiplication to help me solve problems?	MP.6 Attend to precision. MP.7 Look for and make use of structure.	 b and a × c. Area models can be used to represent the distributive property. Multiply whole numbers using the commutative property as a strategy. Multiply whole numbers using the associative property as a strategy. Use tiling to show that the area of a rectangle with whole-number side lengths a and b + c is the sum of a × b and a × c. Multiply whole numbers using the distributive property as a strategy.
	I Can	Statement

• I can use the commutative property of multiplication. (I know that if $6 \times 4 = 24$, then $4 \times 6 = 24$.)

Third Grade	Content: Mathematics
Unit 2	Time Frame: 43-45 Days
New Jersey Learning Standards Mathematical Practice	Skills

- I can use the associative property of multiplication. (To figure out 3 x 5 x 2, I can multiply 3 x 5 = 15, then 15 x 2 = 30 OR multiply 5 x 2 = 10, then 3 x 10 = 30.) –
- I can find the answer to a division problem by thinking of the missing factor in a multiplication problem. (I can figure out 32 ÷ 8 because I know that 8 x 4 = 32.)
- I can multiply and divide within 100 easily and quickly because I know how multiplication and division are related.

Third Grade		Content: Mathematics
Unit 2		Time Frame: 43-45 Days
New Jersey Learning Standards	Mathematical Practice	Skills
3.MD.C.7. Relate area to the operations of multiplication and addition. 3.MD.C.7d. 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.	MP.3 Construct viable arguments and critique the reasoning of others. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure.	 Areas of rectilinear figures can be determined by decomposing them into non-overlapping rectangles and adding the areas of the parts. Decompose rectilinear figures into non-overlapping rectangles. Find areas of non-overlapping rectangles and add to find the area of the rectilinear figure. Solve real world problems involving area of rectilinear figures.
Essential Questions:		
 How can I find the area of rectilinear figure? How can I use the concept of perimeter and area to solve real world problems? 		

Third Grade		Content: Mathematics	
Unit 2		Time Frame: 43-45 Days	
New Jersey Learning Standards	Mathematical Practice	Skills	
	I Can Statements		
I can measure areas by counting un I can measure area by using what I	it squares. know about multiplication and addition.		
 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 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers. *(benchmarked) Essential Questions: How can I fluently multiply and divide within 100? 	MP 2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Multiply and divide within 40 with accuracy and efficiency.	

Third Grade		Content: Mathematics
Unit 2		Time Frame: 43-45 Days
New Jersey Learning Standards	Mathematical Practice	Skills
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. *(benchmarked)	MP.1 Make sense of problems and persevere in solving them. MP 2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP 4. Model with mathematics	 Letters or symbols in an equation represent an unknown quantity. Represent the solution to two-step word problems with equations. Use a symbol to represent an unknown in an equation. Use rounding as an estimation strategy. Explain, using an estimation strategy, whether an answer is reasonable.
 Essential Questions: How can I solve two-step problems using multiplication, division, addition, and subtraction? How can I show and solve equations with a symbol for the unknown number? 	MP.5 Use appropriate tools strategically. MP.6 Attend to precision.	

Third Grade	Content: Mathematics
Unit 2	Time Frame: 43-45 Days

New Jersey Learning Standards	Mathematical Practice	Skills
 3.OA.D.9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends. Essential Questions: How can I use properties of operations to explain math patterns? 	MP.3 Construct viable arguments and critique the reasoning of others. MP.6 Attend to precision. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	 Addition and multiplication tables reveal arithmetic patterns. Patterns may be related to whether a number is even or odd. Patterns exist in rows, columns and diagonals of addition tables and multiplication tables. Decomposing numbers into equal addends may reveal patterns. Explain arithmetic patterns using properties of operations.

I Can Statement

I can use addition, subtraction, multiplication and division to solve all kinds of word problems and then use mental math to decide if my answers are reasonable.

I can find patterns in addition and multiplication tables and explain them using what I know about how numbers work.

I can create or match a story problem to the correct symbol $(+,-,\times,\div,<,>,$ and =) and numbers.

I can identify the missing symbol $(+, -, \times, \div, <, >,$ and =) that makes a number sentence true.

Third Grade	Content: Mathematics
Unit 2	Time Frame: 43-45 Days
New Jersey Learning Standards Mathematical Practice	Skills

New Jersey Learning Standards	Mathematical Practice	Skills
 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. *(benchmarked) 	MP 2 Reason abstractly and quantitatively.	Add and subtract two 2-digit whole numbers within 100 with accuracy and efficiency.
Essential Questions:		
How can I multiply one-digit whole numbers by two digit multiples of 10?		

I Can Statements

• I can add and subtract numbers within 1000.

Third Grade		Content: Mathematics
Unit 2		Time Frame: 43-45 Days
New Jersey Learning Standards	Mathematical Practice	Skills
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 having equal area and describe the area of each part as 1/4 of the area of the shape. Essential Questions: • How can I understand unit fractions by dividing shapes into parts with equal area?	MP 2 Reason abstractly and quantitatively. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure.	 Wholes, when partitioned into equal parts, contain parts representing a unit fraction and each part is the same size. Each part has the same name and represents a unit fraction (one-half, one-third, one-fourth, one-sixth, one-eighth). The denominator is the total number of parts in the whole. The numerator is the number of parts in a given fraction. Fraction 1/b is the quantity formed by 1 part when a whole is partitioned into b equal parts. Fraction a/b as the quantity formed by a parts of size 1/b (e.g. 10/2 is 10 parts and each part is of size ½). Partition rectangles, and other shapes, into halves, thirds, fourths, sixths and eighths. Identify the fractional name of each part. Model and explain that a fraction a/b is the quantity formed by a parts of size 1/b (For example, 10/2 is 10 parts and each part is of size ½).

Third Grade		Content: Mathematics
Unit 2		Time Frame: 43-45 Days
New Jersey Learning Standards	Mathematical Practice	Skills
	ICa	nn Statement
	100	

Third Grade		Content: Mathematics
Unit 2		Time Frame: 43-45 Days
New Jersey Learning Standards	Mathematical Practice	Skills
I can divide shapes into part	s with equal areas and show those areas as fra	
	I	Resources
	Resources	www.mobymax.com
https://sso.rumba.pk12ls.com EnvisionMath Benchmarks Assessment Fluency Practice Vocabulary Review		www.iready.com www.abcya.com www.khanacedmy.com www.funbrain.com www.splashlearn.com
· Topic Assessments		
		·

Third Grade	Content: Mathematics
Unit 2	Time Frame: 43-45 Days
New Jersey Learning Standards Mathematical Practice	Skills

Differentiated Instruction (content, process, product and learning environment)	
At Risk Students	English Language Learners
Modifications for Classroom	Modifications for Classroom
Pair visual prompts with verbal presentations Use of lab or experiments to give visual representation of concept Ask students to restate information, directions, and assignments. Work within group or partners Repetition and practice Model skills / techniques to be mastered. Use metacognitive work Extended time to complete class work Provide copy of class notes Student may request to use a computer to complete assignments. Use manipulatives to examine concepts	Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary) Preteach vocabulary Use graphic organizers or other visual models Use of manipulatives to visualize concept Highlight key vocabulary-chart or vocabulary bank Use of nonverbal responses (thumbs up/down) Use sentence frames Design questions for different proficiency levels Utilize partners and partner talk
Assign a peer helper in the class setting Provide oral reminders and check student work during independent work time	
Special Education	Gifted and Talented

Modifications for Classroom

Pair visual prompts with verbal presentations

Use of lab or experiments to give visual representation of concept

Ask students to restate information, directions, and assignments.

Preteach vocabulary

Repetition and practice

Model skills / techniques to be mastered.

Use manipulatives and visual representation to examine Breakdown large assignments into smaller tasks

Extended time to complete class work

Provide copy of class notes

Preferential seating to be mutually determined by the student and teacher

Use of online component of book

Extra textbooks for home. Student may request books on tape / CD / digital media, as available and appropriate.

Assign a peer helper in the class setting

Provide oral reminders and check student work during independent work time

Assist student with long and short term planning of assignments

Extension Activities

Conduct research and provide presentation of cultural topics.

Design surveys to generate and analyze data to be used in discussion.

Use of Higher Level Questioning Techniques

Provide assessments at a higher level of thinking

Create alternative assessment which requires writing, research and presentation

Third Grade	Content: Mathematics
Unit 3	Time Frame: 43-45

Jnit 3		Time Frame: 43-45
New Jersey Learning Standards	Mathematical Practice	Skills
3.NF.A.2. Understand a fraction as a number on the number line; represent fractions on a number line diagram. 3.NF.A.2a. 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. 3.NF.A.2b. 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. *[Grade 3 expectations in this domain are limited to fractions	MP.5 Use appropriate tools strategically.	 Fraction is a number and has its place on the number line. When placing unit fractions on a number line, the space between 0 and 1 is the whole and must be partitioned into equal parts. Each part of a whole has the same size (one-half, one-third, one-fourth, one-sixth or one-eighth). Parts of the whole that begin at 0 and ends at 1/b on the number line is the location of fraction 1/b (one-half, one-third, one-fourth, one-sixth, or one-eighth). Partition a number line into parts of equal sizes between 0 and 1 (halves, thirds, fourths sixths and eighths). Plot unit fractions on the number line. Identify multiple parts (of length 1/b) on the number line. Plot a fraction on the number line by marking off multiple parts of size 1/b. Plot fractions equivalent to whole numbers including 0 and up to 5.

with denominators 2, 3, 4, 6, and 8.] Essential Questions: • How can I write a fraction and unit fraction for a part of a whole and for a number on a number line?		
3.NF.A.3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size 3.NF.A.3a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. 3.NF.A.3b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model. 3.NF.A.3c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. <i>Examples</i> :	MP 2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.7 Look for and make use of structure.	 Comparing fractions, each referencing the same whole. Fractions are equivalent if they are the same size. Fractions are equivalent if they are at the same point on a number line. find equivalent fractions (limited to fractions with denominators 2, 3, 4, 6, and 8). Explain why two fractions are equivalent; use a visual fraction model to support explanation. Write whole numbers as fractions. Identify fractions that are equivalent to whole numbers. Compare two fractions having the same numerator by reasoning about their size. Compare two fractions having the same denominator by reasoning about their size. Explain why comparing fractions that do not have the same whole is not valid (reason about their size and support reasoning with a model). Use <, =, and > symbols to write comparisons of fractions and justify conclusions with a visual fraction model.

Express 3 in the form 3	
= 3/1; recognize that	
6/1 = 6; locate $4/4$ and	
1 at the same point of a	
number line diagram.	
3.NF.A.3d. Compare two	
fractions with the same	
numerator or the same	
denominator by	
reasoning about their	
size. Recognize that	
comparisons are valid	
only when the two	
fractions refer to the	
same whole. Record the	
results of comparisons	
with the symbols >, =, or <, and justify the	
conclusions, e.g., by	
using a visual fraction	
model.	
*[Grade 3 expectations in this	
domain are limited to fractions	
with denominators 2, 3, 4, 6,	
and 8.]	
Essential Questions:	
Essential Questions:	
How can I write equivalent	
fractions including fractions	
that are equivalent to whole	
numbers?	
How can I compare two	
fractions with the same	
denominator?	

I Can Statements

I can compare fractions by reasoning about their size.

I can show and understand that fractions are equal parts of a whole.

I can show whole numbers as fractins.

I can recognize fractions that are equal to one whole.

I can label fractions on a number line because I know the space between any two numbers can be thought of as a whole.

3.MD.A.1. Tell and write
time to the nearest minute
and measure time intervals
in minutes. Solve word
problems involving addition
and subtraction of time
intervals in minutes. (e.g.,
by representing the problem
on a number line diagram)

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

- MP 2 Reason abstractly and quantitatively.
- MP.4 Model with mathematics.
- MP.5 Use appropriate tools strategically.

- Analog clocks represent hours as numbers and minutes are represented as tick marks.
- Tell time to the nearest minute using digital and analog clocks.
- Write time to the nearest minute using analog clocks.
- Choose appropriate strategies to solve real world problems involving time.
- Use the number line as a visual model to determine intervals of time as *jumps* on a number line.
- Measure time intervals.

Essential Questions:

- How can I tell and write time to the nearest minute?
- How can I solve word problem involving time intervals?

3.MD.A.2. Measure and

masses of objects using

estimate liquid volumes and

standard units of grams (g),

(1). Add, subtract, multiply,

or divide to solve one-step

word problems involving

given in the same units.

masses or volumes that are

kilograms (kg), and liters

- MP.1 Make sense of problems and persevere in solving them.
- MP 2 Reason abstractly and quantitatively.
- MP.4 Model with mathematics.
- MP.5 Use appropriate tools strategically.

- Mass may be measured in grams and kilograms.
- Mass is measured by weighing.
- Volume may be measured in liters.
- Volume may be measured with instruments such as beakers.
- Measure and read a scale to estimate volume.
- Measure and read a scale to estimate mass.
- Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes.

Essential Questions:	MP.6 Attend to precision.	
 How can I measure and 		
estimate liquid volumes		
and masses of objects?		
3.MD.D.8. Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	MP.1 Make sense of problems and persevere in solving them. MP 2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically.	 Perimeter of a figure is equivalent to the sum of the length of all of the sides. Rectangles that have same perimeter can have different areas. Rectangles that have same area can have different perimeters. Determine the perimeter of various plane shapes and irregular shapes given the side lengths. Determine the unknown side length give the perimeter and other sides. Show rectangles having the same perimeter and different areas. Show rectangles having different perimeters and the same area.
• How can I solve word problems involving liquid volumes and masses?		
	I	Can Statement
 I can tell and write time 	e to the nearest minute.	
• I can measure time in	minutes.	
 I can solve telling time 	e word problems by adding and subtra-	cting minutes
 I can measure length to t an measure length to the 	he nearest inch, half inch and quarter inch. nearest centimeter.	
I can measure liquids and	d solids with liters, grams and kilograms.	
I can measure liquids and	d solids with cups, pints, quarts, gallons, ou	unces, and pounds.
	on, multiplication and division to solve wo	*

Shapes in different categories share attributes.

classify and sort shapes by attributes.

Quadrilaterals are closed figures with four sides.

Rhombuses, rectangles, etc, and other quadrilaterals share attributes.

• I can solve real world math problems using what I know about the perimeter of shapes.

MP.5 Use appropriate tools

strategically.

3.G.A.1. Understand that

categories (e.g., rhombuses,

rectangles, and others) may

shapes in different

share attributes (e.g., having	MP.6 Attend to precision.	 explain why rhombuses, rectangles, and squares are examples of quadrilaterals.
four sides), and that the		draw examples of quadrilaterals.
shared attributes can define	MP.7 Look for and make use of	• •
a larger category (e.g.,	structure.	
quadrilaterals). Recognize		·
rhombuses, rectangles, and		
squares as examples of		
quadrilaterals, and draw		
examples of quadrilaterals.		
examples of quadritaterars.		
Essential Questions:		
•		
How can I explore the		
relationships among		
quadrilaterals,		
trapezoids,		
parrallelograms,		
rhombuses, rectangles,		
and squares?		
 How can I draw 		
quadrilaterals that		
match a description?		
	I	Can Statement
I can place shapes into ca	ategories depending upon their attributes.	
 I can recognize and dra 	w quadrilaterals such as rhombuses, rectan	gles and squares, as well as other examples of quadrilaterals
3.OA.C.7. Fluently multiply	MP 2 Reason abstractly and	
and divide within 100, using	quantitatively.	
strategies such as the		
relationship between	MP.7 Look for and make use of	
multiplication and division	structure.	• multiply and divide within 100 with accuracy and efficiency.
(e.g., knowing that $8 \times 5 =$	MP.8 Look for and express regularity	
40, one knows $40 \div 5 = 8$)	in repeated reasoning.	
or properties of operations.	in repeated reasoning.	
By the end of Grade 3,		
know from memory all		
products of two one-digit		
numbers. *(benchmarked)		
numbers. (benchmarked)		

Essential Questions: • How can I fluently multiply and divide within 100?			
I Can Statement I can multiply within 100 esaily and quickly because I know how multiplication and division are related.			
Resources			

Resources

https://sso.rumba.pk12ls.com/

EnvisionMath

- Benchmarks Assessments
- · Fluency Practice
- · Vocabulary Review
- Topic Assessments

www.mobymax.com www.iready.com www.abcya.com www.khanacedmy.com www.funbrain.com

www.splashlearn.com

Differentiated Instruction

(content, process, product and learning environment)

At Risk Students	English Language Learners
Modifications for Classroom	Modifications for Classroom
Pair visual prompts with verbal presentations	Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary)
Use of lab or experiments to give visual representation of concept	Preteach vocabulary
Ask students to restate information, directions, and assignments.	Use graphic organizers or other visual models
Work within group or partners	Use of manipulatives to
Repetition and practice	visualize concept
Model skills / techniques to be mastered.	Highlight key vocabulary-chart or vocabulary bank
Use metacognitive work	Use of nonverbal responses (thumbs up/down)
Extended time to complete class work	Use sentence frames
Provide copy of class notes	Design questions for different proficiency levels
Student may request to use a computer to complete assignments.	Utilize partners and partner talk
Use manipulatives to examine concepts	
Assign a peer helper in the class setting	
Provide oral reminders and check student work during independent work time	
Special Education	Gifted and Talented

Modifications for Classroom

Pair visual prompts with verbal presentations

Use of lab or experiments to give visual representation of concept

Ask students to restate information, directions, and assignments.

Preteach vocabulary

Repetition and practice

Model skills / techniques to be mastered.

Use manipulatives and visual representation to examine Breakdown large assignments into smaller tasks

Extended time to complete class work

Provide copy of class notes

Preferential seating to be mutually determined by the student and teacher

Use of online component of book

Extra textbooks for home. Student may request books on tape / CD / digital media, as available and appropriate.

Assign a peer helper in the class setting

Provide oral reminders and check student work during independent work time

Assist student with long and short term planning of assignments

Extension Activities

Conduct research and provide presentation of cultural topics.

Design surveys to generate and analyze data to be used in discussion.

Use of Higher Level Questioning Techniques

Provide assessments at a higher level of thinking

Create alternative assessment which requires writing, research and presentation

Third Grade		Content: Mathematics
Unit 4		Time Frame: 43-45 Days
New Jersey Learning Standards	Mathematical Practice	Skills
3.MD.B.3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.	MP.1 Make sense of problems and persevere in solving them. MP 2 Reason abstractly and quantitatively. MP.4 Model with mathematics.	 Graphs organize information and contain labels. Pictures and bars can represent numbers in graphs. Different graphs may display different scales. Draw scaled picture graphs. Draw scaled bar graphs. Analyze, interpret and create bar graphs and pictographs in real world situations. Solve "how many more" and "how many less" problems using scaled bar graphs.
3.MD.B.4. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.	MP 2 Reason abstractly and quantitatively. MP.5 Use appropriate tools strategically.	 Show measurements on a line plot displays the information in an organized way Measure length using rulers marked with inch, quarter inch and half inch Generate measurement data by measuring length and create a line plot of the data Accurately measure several small objects using a standard ruler and display findings on a line plot Display data on line plots with horizontal scales in whole numbers, halves, and quarters
 3.MD.C.7. Relate area to the operations of multiplication and addition. 3.MD.C.7d. Recognize area 	MP.3 Construct viable arguments and critique the reasoning of others. MP.5 Use appropriate tools	Areas of rectilinear figures can be determined decomposing the them into non- overlapping rectangles and adding the areas of the parts.

Third Grade Unit 4		Content: Mathematics Time Frame: 43-45 Days
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. *(benchmarked)	strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure.	 Decompose rectilinear figures into non-overlapping rectangles. Find areas of non-overlapping rectangles and add to find the area of the rectilinear figure. Solve real world problems involving area of rectilinear figures.
	I	Can Statements
• I can measure leng	gth to the nearest inch, half incl	h and quarter inch.
• I can measure ares	s bycounting squares.	-
	a by using what I know about n	nultiplication and addition.
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. *(benchmarked)	MP 2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Multiply and divide within 100 with accuracy and efficiency.

		Content: Mathematics Time Frame: 43-45 Days
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. *(benchmarked)	MP.1 Make sense of problems and persevere in solving them. MP 2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP 4. Model with mathematics MP.5 Use appropriate tools strategically. MP.6 Attend to precision.	 A letter or variable in an equation represents an unknown quantity. Represent two-step word problems with equation(s) containing unknowns. Perform operations in the conventional order (no parentheses). Use rounding as an estimation strategy. Explain, using an estimation strategy, whether an answer is reasonable.
Loop multiply within 100	I () easily and quickly because I know how m	Can Statements:
_ ·		all kinds of word problems and then use mental math to decide if my answers are reasonable.
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	MP 2 Reason abstractly and quantitatively.	Add and subtract within 1000 with accuracy and efficiency.

Third Grade		Content: Mathematics Time Frame: 43-45 Days
Unit 4		
New Jersey Learning	Mathematical Practice	Skills
Standards		
subtraction. *(benchmarked)		
I Can Statements		
• I can add and subtract numbers within 1000.		
Resources		

Third Grade		Content: Mathematics	
Unit 4		Time Frame: 43-45 Days	
New Jersey Learning Standards	Mathematical Practice		Skills
Resources https://sso.rumba.pk12ls.com/ EnvisionMath Benchmarks Assessments Fluency Practice Vocabulary Review			www.mobymax.com www.iready.com www.abcya.com www.khanacedmy.com www.funbrain.com www.splashlearn.com
· Topic Assessments			

Differentiated Instruction (content, process, product and learning environment)				
At Risk Students	English Language Learners			
Modifications for Classroom	Modifications for Classroom			
Pair visual prompts with verbal presentations	Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary)			
Use of lab or experiments to give visual representation of concept				

Ask students to restate information, directions, and assignments.

Work within group or partners

Repetition and practice

Model skills / techniques to be mastered.

Use metacognitive work

Extended time to complete class work

Provide copy of class notes

Student may request to use a computer to complete assignments.

Use manipulatives to examine concepts

Assign a peer helper in the class setting

Provide oral reminders and check student work during independent work time

Preteach vocabulary

Use graphic organizers or other visual models

Use of manipulatives to visualize concept

Highlight key vocabulary-chart or vocabulary bank

Use of nonverbal responses (thumbs up/down)

Use sentence frames

Design questions for different proficiency levels

Utilize partners and partner talk

Special Education	Gifted and Talented
Modifications for Classroom	
Pair visual prompts with verbal presentations	Extension Activities Conduct research and provide presentation of cultural topics.
Use of lab or experiments to give visual representation of concept	Design surveys to generate and analyze data to be used in discussion.
Ask students to restate information, directions, and assignments.	Use of Higher Level Questioning Techniques
Preteach vocabulary	
·	Provide assessments at a
Repetition and practice	higher level of thinking
Model skills / techniques to be mastered.	Create alternative assessment which requires writing,

	research and presentation
Use manipulatives and visual representation to examine	
Breakdown large assignments	
into smaller tasks	
Extended time to complete	
Extended time to complete class work	
Class work	
Provide copy of class notes	
110 Had copy of class notes	
Preferential seating to be mutually determined by the student and	
teacher	
Use of online component of book	
Extra textbooks for home. Student may request books on tape / CD /	
digital media, as available and appropriate.	
Assign a peer helper in the class setting	
Assign a peer neiper in the class setting	
Provide oral reminders and check student work during independent	
work time	
Assist student with long and short term planning of assignments	