Grade: 3	Content Area: Mathematics

Introduction:

Students in Third Grade Math will complete four Critical Areas. All math units follow the NJ Student Learning Objectives. Student progress will be measured in a variety of methods.

Adopted on:	October 23, 2018
Revised on:	November 26, 2019
Revised by:	Katie Micek, Stephanie Konsig, Stephanie Cecchini
Proposed Revision Date	Summer 2021

Beach Haven School District Mathematics Curriculum	
Content Area: Math	
Course Title: Math	Grade Level: 3
Instructional Materials: "Go Math"	
Critical Area 1: Whole Number Operations (Chapters 1-7) **Focus:** ● Represent and solve problems involving multiplication and division. ● Understand properties of multiplication and the relationship between multiplication and division. ● Multiply and divide within 100. ● Solve problems involving the four operations, and identify and explain patterns in arithmetic. ● Represent and interpret data. ● Geometric measurement: understand concepts of area and relate area to multiplication and to addition.	**105 Days- ongoing**
Critical Area 2: Understanding Fractions (Chapters 8-9) **Focus:** ● Develop understanding of fractions as numbers. ● Reason with shapes and their attributes.	**25 Days- ongoing**

Critical Area 3: Measurement (Chapters 10-11)	25 Days- ongoing
Focus: ● Understand properties of multiplication and the relationship between multiplication and division. ● Multiply and divide within 100. ● Solve problems involving the four operations, and identify and explain patterns in arithmetic. ● Solve problems involving measurement and estimation of intervals of time, liquid, volumes and masses of objects.	
Critical Area 4: Geometry (Chapters 11-12)	25 Days- ongoing
Focus: ● Develop understanding of fractions as numbers. ● Reason with shapes and their attributes. ● Geometric measurement: understand concepts of area and relate area to multiplication and to addition.	

Critical Area 1: Whole Number Operations (Chapters 1-7)	Duration: 105 Days- ongoing
Standards/Learning Targets	

New Jersey Student Learning Standards:
- 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 ÷ 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 ÷ 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.
- 3.OA.A.4: Determine the unknown whole number in a multiplication or division equation relating three whole numbers ?
- 3.OA.D.9- Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.
- 3.OA.B.6: Understand division as an unknown factor problem.
- 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.
- 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.
- 3.OA.B.5- Apply properties of operations as strategies to multiply and divide.
- 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 the products of two one-digit numbers
- 3.OA.D.8: Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
- 3.MD.C.7: Relate area to the operations of multiplication and addition.
- 3.MD.C.7c: 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 x c. Use area models to represent the distributive property in mathematical reasoning.

Standards for Mathematical Practice:
- MP.1 Make sense of problems and persevere in solving them.
- MP.2 Reason Abstractly and quantitatively.
- MP.3 Construct viable arguments and critique the reasoning of others.
- MP.4 Model with mathematics.
- MP.5 Use appropriate tools strategically.
- MP.6 Attend to precision.
- MP.7 Look for and make use of structure.

Interdisciplinary Connections:
ELA:
- SL.3.3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

Career Ready Practices:
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP4. Communicate clearly and effectively and with reason.
- CRP12. Work productively in teams while using cultural global competence.

21st Century Life and Career Standards:
- 9.1.4.A.1- Explain the difference between a career and a job, and identify various jobs in the community and the related earnings.

Technology:
- 8.1.2.A.1 Identify the basic features of a digital device and explain its purpose.
- 8.1.2.A.4 Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).
- 8.2.2.C.1 Brainstorm ideas on how to solve a problem or build a product
- 8.1.2.E.1 Use digital tools and online resources to explore a problem or issue.
- 8.2.2.E.1 List and demonstrate the steps to an everyday task

Accommodations/Modifications

English Language Learners:
- Provide written directions with models and diagrams when possible
- Build in more group work to allow ELL students to interact and communicate with peers
- Pre-teach as often as possible- share photos, videos, articles, vocabulary etc. with ELL students prior to use in class
- Provide vocabulary ahead of time
- Use sentence frames to give students practice with academic language
- Highlight key words
- Utilize visual charts/cues
- Frequently check for understanding
- Test key concepts and main ideas
- Simplify written and verbal instructions
- Give students objective tests: matching, multiple choice, etc.
- Provide manipulatives
- Allow extra time
- Use alternative assessments such as physical demonstration and pictorial products
- Provide shorter assessments
- Grade content vs. mechanics
- Read assessments aloud
- Allow open-book or open-note tests

Special Education/Students with Disabilities:
- Follow specific students accommodations and modifications as listed in individual student IEP
- Provide opportunities for movement
- Have manipulatives and other math resources available for student use
- Incorporate small group instruction
- Utilize visual charts/cues
- Facilitate successful experiences
- Provide tutoring if needed
- Provide positive praise to increase motivation
- Differentiate tests to meet the needs of students
- Shorten tests and give in multiple sessions if needed
- Reteach/Review before giving assessments
- Read assessment directions for each section to student(s)
- Allow the use of tools such as a computer or iPad
- Allow the use of manipulatives such as counters during testing

- Highlight key parts of equations or word problems for student(s)
- Allow verbal answers
- Print tests with larger font
- Allow for extra time if needed/necessary

504 Plans
- Follow specific students accommodations and modifications as listed in individual student 504 plan
- Provide opportunities for movement
- Have manipulatives and other math resources available for student use

- Incorporate small group instruction
- Utilize visual charts/cues
- Facilitate successful experiences
- Provide tutoring if needed
- Provide positive praise to increase motivation
- Differentiate tests to meet the needs of students
- Shorten tests and give in multiple sessions if needed
- Reteach/Review before giving assessments
- Read assessment directions for each section to student(s)
- Allow the use of tools such as a computer or iPad
- Allow the use of manipulatives such as counters during testing

- Highlight key parts of equations or word problems for student(s)
- Allow verbal answers
- Print tests with larger font
- Allow for extra time if needed/necessary

Students at Risk of Failure:
- Ensure child has access to all appropriate academic resources both in school and at home
- Provide structure and adhere to a consistent daily routine with clear and concise rules
- Facilitate successful experiences
- Provide tutoring if needed
- Pair with adult mentor or buddy
- Be flexible with assignments
- Offer several alternatives from which all students can choose.
- Give students extra time to complete tests
- Give students objective tests: matching, multiple choice, etc.
- Test key concepts or main ideas
- Answer fewer or different test questions
- Graph paper to assist in organizing or lining up math problems
- Use of computers and calculators
- Answers to be dictated
- Accept short answers
- Open-book or open-note tests
- Allow students to complete assignments in school
- Do not penalize for late or missing assignments/materials
- Offer encouragement and understanding
- Allow students to have personal possessions and property in school
- Give choice to provide a sense of control

Economically Disadvantaged:
- Provide clear, achievable expectations, do not lower academic requirements for them.
- Build a safe and nurturing atmosphere
- Be flexible with assignments
- Providing needed academic resources (paper, pencils, computer time)
- Provide materials for all assignments in class and at home
- Offer several alternatives from which all students can choose.
- Allow students to finish assignments independently, or give them the opportunity to complete tasks at their own pace.
- Use real-world examples and create mental models for abstract idea
- Provide increased knowledge base and vocabulary use about real world experiences.

- Share the decision making in class.
- Maintain expectations while offering choice and soliciting input

Culturally Diverse:
- Involve families in student learning
- Provide social/emotional support
- Respect cultural traditions

- Build in more group work to encourage interaction with peers
- Show photos, videos, and definitions when possible for culturally unique vocabulary
- Translate directions into native language
- Teach study skills
- Provide students with necessary academic resources and materials
- Allow students to demonstrate knowledge through alternative assessments
- Provide visuals
- Assign peer tutor
- Support verbal explanations with non verbal cues: Gestures/ facial expressions Props, realia, manipulatives, concrete materials,visuals, graphs, pictures, maps
- Provide positive praise to increase motivation
- Provide real world connections and emphasize the value of education
- Communicate high expectations for the success of all students
- Integrate the arts into learning activities

Knowledge & Skills	
	Essential Questions/Understandings: ● How can you add and subtract whole numbers and decide if an answer is reasonable? (Chapter 1) ● How can you represent and interpret data? (Chapter 2) ● How can you use multiplication to find how many in all? (Chapter 3) ● What strategies can you use to multiply? (Chapter 4) ● How can you use multiplication facts, place value, and properties to solve multiplication problems? (Chapter 5) ● How can you use division to find how many in each group or how many equal groups? (Chapter 6) ● What strategies can you use to divide? (Chapter 7)

Core Instructional & Supplemental Materials

Suggested Activities/Resources:
- Multiplication War Card Game
- Baseball Multiplication - Batter rolls 2 dice and multiplies the numbers. Batter moves along baseball diamond depending on product. Runs are scored when a batter reaches home plate
- Multiplication Bingo
- Around the World: Flashcard Practice
- Sushi Monsters iPad Application- Basic Fact Practice
- Reflexmath.com
- Happynumbers.com
- Achieve3000: Differentiated Instruction Solutions
- Online Math Games
- Math Playground
- ABCya
- Funbrain
- Flocabulary
- GoNoodle

Varied Levels of Text:
- *Hershey's Kisses* by Jerry Pallotta
- *Safari Park* by Stuart Murphy
- *The Doorbell Rang* by Pat Hutchings
- *Divide and Ride* by Stuart J. Murphy
- *Everybody Wins!* Bruce, Sheila M
- *The Great Divide* Dodds, Dayle Ann N
- *If You Were A Divided-By Sign* Shaskan, Trisha Speed
- *If You Were A Times Sign* Shaskan, Trisha Speed
- *Jump, Kangaroo, Jump!* Murphy, Stuart J.
- *Mummies In The Library: Divide The Pages* Perritano, John Q
- *Fractions = Trouble!* Mills, Claudia M
- *Building An Igloo* Steltzer, Ulli NF
- *If You Were A Polygon* Aboff, Marcie
- *Mummy Math* Neuschwander, Cindy P
- *Shape Up!* Adler, David A.
- *Coyotes All Around* Murphy, Stuart J. O
- *Earth Day — Hooray!* Murphy, Stuart J. Q
- *Great Estimations* Goldstone, Bruce Q

Evidence of Student Learning

Formative Tasks:
- Teacher Observation
- Anecdotal Records/ Checklists
- Oral Assessments/Conferencing
- Analysis of student work
- Daily Review
- Solve and Share
- Quick Check Quizzes
- Exit Slips
- Cooperative Group Learning
- Games
- Self-reflection
- Math Center Activities
- Math Games
- Draw and Show
- Math Journals

Alternative Assessments:
- Performance Tasks
- Student created models
- Written/verbal explanations
- Peer assessment
- Self-assessment
- Checklists
- Rubrics
- Portfolio/Math Journals

Summative Assessments:	Benchmark Assessments:
● Show-What-You-Know ● Mid-Chapter Checkpoints ● Chapter Test	● Beginning of Year SGO ● Mid-Year SGO ● End of Year SGO

Critical Area 2: Understanding Fractions (Chapters 8-9)	**Duration: 25 Days- ongoing**
Standards/Learning Targets	

New Jersey Student Learning Standards:
- 3.NF.A.1: Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.
- 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.
- 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. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.
- 3.NF.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.
- 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.

Standards for Mathematical Practice:
- MP.1 Make sense of problems and persevere in solving them.
- MP.2 Reason Abstractly and quantitatively.
- MP.3 Construct viable arguments and critique the reasoning of others.

- MP.4 Model with mathematics.
- MP.5 Use appropriate tools strategically.
- MP.6 Attend to precision.
- MP.7 Look for and make use of structure.
- MP.8 Look for and express regularity in repeated reasoning.

Interdisciplinary Connections:
ELA:
- SL.3.3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

Career Ready Practices:
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP4. Communicate clearly and effectively and with reason.
- CRP12. Work productively in teams while using cultural global competence.

21st Century Life and Career Standards:
- 9.1.4.A.1- Explain the difference between a career and a job, and identify various jobs in the community and the related earnings.

Technology:
- 8.1.2.A.1 Identify the basic features of a digital device and explain its purpose.
- 8.1.2.A.4 Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).
- 8.2.2.C.1 Brainstorm ideas on how to solve a problem or build a product
- 8.1.2.E.1 Use digital tools and online resources to explore a problem or issue.
- 8.2.2.E.1 List and demonstrate the steps to an everyday task

Accommodations/Modifications

English Language Learners:
- Provide written directions with models and diagrams when possible
- Build in more group work to allow ELL students to interact and communicate with peers
- Pre-teach as often as possible- share photos, videos, articles, vocabulary etc. with ELL students prior to use in class
- Provide vocabulary ahead of time
- Use sentence frames to give students practice with academic language
- Highlight key words
- Utilize visual charts/cues
- Frequently check for understanding
- Test key concepts and main ideas
- Simplify written and verbal instructions
- Give students objective tests: matching, multiple choice, etc.
- Provide manipulatives
- Allow extra time
- Use alternative assessments such as physical demonstration and pictorial products
- Provide shorter assessments
- Grade content vs. mechanics
- Read assessments aloud
- Allow open-book or open-note tests

Special Education/Students with Disabilities:
- Follow specific students accommodations and modifications as listed in individual student IEP
- Provide opportunities for movement
- Have manipulatives and other math resources available for student use
- Incorporate small group instruction
- Utilize visual charts/cues
- Facilitate successful experiences
- Provide tutoring if needed
- Provide positive praise to increase motivation
- Differentiate tests to meet the needs of students
- Shorten tests and give in multiple sessions if needed
- Reteach/Review before giving assessments
- Read assessment directions for each section to student(s)
- Allow the use of tools such as a computer or iPad
- Allow the use of manipulatives such as counters during testing
- Highlight key parts of equations or word problems for student(s)
- Allow verbal answers
- Print tests with larger font
- Allow for extra time if needed/necessary

504 Plans
- Follow specific students accommodations and modifications as listed in individual student 504 plan
- Provide opportunities for movement

- Have manipulatives and other math resources available for student use
- Incorporate small group instruction
- Utilize visual charts/cues
- Facilitate successful experiences
- Provide tutoring if needed
- Provide positive praise to increase motivation
- Differentiate tests to meet the needs of students
- Shorten tests and give in multiple sessions if needed
- Reteach/Review before giving assessments
- Read assessment directions for each section to student(s)
- Allow the use of tools such as a computer or iPad
- Allow the use of manipulatives such as counters during testing
- Highlight key parts of equations or word problems for student(s)
- Allow verbal answers
- Print tests with larger font
- Allow for extra time if needed/necessary

Students at Risk of Failure:
- Ensure child has access to all appropriate academic resources both in school and at home
- Provide structure and adhere to a consistent daily routine with clear and concise rules
- Facilitate successful experiences
- Provide tutoring if needed
- Pair with adult mentor or buddy
- Be flexible with assignments
- Offer several alternatives from which all students can choose.
- Give students extra time to complete tests
- Give students objective tests: matching, multiple choice, etc.
- Test key concepts or main ideas
- Answer fewer or different test questions
- Graph paper to assist in organizing or lining up math problems
- Use of computers and calculators
- Answers to be dictated
- Accept short answers
- Open-book or open-note tests
- Allow students to complete assignments in school
- Do not penalize for late or missing assignments/materials
- Offer encouragement and understanding
- Allow students to have personal possessions and property in school
- Give choice to provide a sense of control

Economically Disadvantaged:
- Provide clear, achievable expectations, do not lower academic requirements for them.
- Build a safe and nurturing atmosphere
- Be flexible with assignments
- Providing needed academic resources (paper, pencils, computer time)
- Provide materials for all assignments in class and at home
- Offer several alternatives from which all students can choose.
- Allow students to finish assignments independently, or give them the opportunity to complete tasks at their own pace.
- Use real-world examples and create mental models for abstract idea

- Provide increased knowledge base and vocabulary use about real world experiences.
- Share the decision making in class.
- Maintain expectations while offering choice and soliciting input

Culturally Diverse:
- Involve families in student learning
- Provide social/emotional support
- Respect cultural traditions

- Build in more group work to encourage interaction with peers
- Show photos, videos, and definitions when possible for culturally unique vocabulary
- Translate directions into native language
- Teach study skills
- Provide students with necessary academic resources and materials
- Allow students to demonstrate knowledge through alternative assessments
- Provide visuals
- Assign peer tutor
- Support verbal explanations with non verbal cues: Gestures/ facial expressions Props, realia, manipulatives, concrete materials,visuals, graphs, pictures, maps
- Provide positive praise to increase motivation
- Provide real world connections and emphasize the value of education
- Communicate high expectations for the success of all students
- Integrate the arts into learning activities

Knowledge & Skills	
	Essential Questions/Understandings: ● How can you use fractions to describe how much or how many? (Chapter 8) ● How can you compare fractions? (Chapter 9)

Core Instructional & Supplemental Materials

Suggested Activities/Resources:
- Multiples of 10 Shopping list- Students are given a shopping list and have to purchase enough items for the class.
- Place Value game- Students will be participants in a game that demonstrates their knowledge of place value. In two teams, students will send one person at a time to come to the board, where they will place sentence strips over numbers identifying the correct place value. Students will work as a team to complete a 4+ digit number with correct place values.
- Around the World: Flashcard Practice
- Sushi Monsters iPad Application- Basic Fact Practice
- Reflexmath.com
- Happynumbers.com
- Achieve3000: Differentiated Instruction Solutions
- Online Math Games
- Math Playground
- ABCya
- Funbrain
- Flocabulary
- GoNoodle
- Number Rock
- TheBazillions-YouTube
- BrainPop.com
- Gizmos

Varied Levels of Text:
- *Divide and Ride* by Stuart J. Murphy
- *Everybody Wins!* Bruce, Sheila M
- *The Great Divide* Dodds, Dayle Ann N
- *If You Were A Divided-By Sign* Shaskan, Trisha Speed
- *If You Were A Times Sign* Shaskan, Trisha Speed
- *Jump, Kangaroo, Jump!* Murphy, Stuart J.
- *Mummies In The Library: Divide The Pages* Perritano, John Q
- *Fractions = Trouble!* Mills, Claudia M
- *Building An Igloo* Steltzer, Ulli NF
- *If You Were A Polygon* Aboff, Marcie
- *Mummy Math* Neuschwander, Cindy P
- *Shape Up!* Adler, David A.
- *Coyotes All Around* Murphy, Stuart J. O
- *Earth Day — Hooray!* Murphy, Stuart J. Q
- *Great Estimations* Goldstone, Bruce Q

Evidence of Student Learning

Formative Tasks:	Alternative Assessments:
● Teacher Observation ● Anecdotal Records/ Checklists ● Oral Assessments/Conferencing ● Analysis of student work ● Daily Review ● Solve and Share ● Quick Check Quizzes ● Exit Slips ● Cooperative Group Learning ● Games ● Self-reflection ● Math Center Activities ● Math Games ● Draw and Show ● Math Journals	● Performance Tasks ● Student created models ● Written/verbal explanations ● Peer assessment ● Self-assessment ● Checklists ● Rubrics ● Portfolio/Math Journals
Summative Assessments:	**Benchmark Assessments:**
● Show-What-You-Know ● Mid-Chapter Checkpoints ● Chapter Test	● Beginning of Year SGO ● Mid-Year SGO ● End of Year SGO

Critical Area 3: Measurement (Chapters 10-11)	Duration: 25 Days- ongoing

Standards/Learning Targets

New Jersey Student Learning Standards:
- 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.
- 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.
- 3.MD.A.2: Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).6 Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.
- 3.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
- 3.OA.B.5: Apply properties of operations as strategies to multiply and divide.
- 3.OA.D.8: Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies

including rounding.
- 3.OA.D.9: Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.
- 3.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
- 3.MD.C.6: Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised 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.
- 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
- 3.MD.C.7c: Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and b + c is the sum of a × b and a × c. Use area models to represent the distributive property in mathematical reasoning.
- 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.

Standards for Mathematical Practice:
- MP.1 Make sense of problems and persevere in solving them.
- MP.2 Reason Abstractly and quantitatively.
- MP.3 Construct viable arguments and critique the reasoning of others.
- MP.4 Model with mathematics
- MP.5 Use appropriate tools strategically.
- MP.6 Attend to precision.
- MP.7 Look for and make use of structure.
- MP.8 Look for and express regularity in repeated reasoning.

Interdisciplinary Connections:
ELA:
- SL.3.3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

Career Ready Practices:
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP4. Communicate clearly and effectively and with reason.
- CRP12. Work productively in teams while using cultural global competence.

21st Century Life and Career Standards:
- 9.1.4.A.1- Explain the difference between a career and a job, and identify various jobs in the community and the related earnings.

Technology:
- 8.1.2.A.1 Identify the basic features of a digital device and explain its purpose.

- 8.1.2.A.4 Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).
- 8.2.2.C.1 Brainstorm ideas on how to solve a problem or build a product
- 8.1.2.E.1 Use digital tools and online resources to explore a problem or issue.
- 8.2.2.E.1 List and demonstrate the steps to an everyday task

Accommodations/Modifications

English Language Learners:
- Provide written directions with models and diagrams when possible
- Build in more group work to allow ELL students to interact and communicate with peers
- Pre-teach as often as possible- share photos, videos, articles, vocabulary etc. with ELL students prior to use in class
- Provide vocabulary ahead of time
- Use sentence frames to give students practice with academic language
- Highlight key words
- Utilize visual charts/cues
- Frequently check for understanding
- Test key concepts and main ideas
- Simplify written and verbal instructions
- Give students objective tests: matching, multiple choice, etc.
- Provide manipulatives
- Allow extra time
- Use alternative assessments such as physical demonstration and pictorial products
- Provide shorter assessments
- Grade content vs. mechanics
- Read assessments aloud
- Allow open-book or open-note tests

Special Education/Students with Disabilities:
- Follow specific students accommodations and modifications as listed in individual student IEP
- Provide opportunities for movement
- Have manipulatives and other math resources available for student use
- Incorporate small group instruction
- Utilize visual charts/cues
- Facilitate successful experiences
- Provide tutoring if needed
- Provide positive praise to increase motivation
- Differentiate tests to meet the needs of students
- Shorten tests and give in multiple sessions if needed
- Reteach/Review before giving assessments
- Read assessment directions for each section to student(s)

- Allow the use of tools such as a computer or iPad
- Allow the use of manipulatives such as counters during testing

- Highlight key parts of equations or word problems for student(s)
- Allow verbal answers
- Print tests with larger font
- Allow for extra time if needed/necessary

504 Plans
- Follow specific students accommodations and modifications as listed in individual student 504 plan
- Provide opportunities for movement
- Have manipulatives and other math resources available for student use
- Incorporate small group instruction
- Utilize visual charts/cues
- Facilitate successful experiences
- Provide tutoring if needed
- Provide positive praise to increase motivation
- Differentiate tests to meet the needs of students
- Shorten tests and give in multiple sessions if needed
- Reteach/Review before giving assessments
- Read assessment directions for each section to student(s)
- Allow the use of tools such as a computer or iPad
- Allow the use of manipulatives such as counters during testing

- Highlight key parts of equations or word problems for student(s)
- Allow verbal answers
- Print tests with larger font
- Allow for extra time if needed/necessary

Students at Risk of Failure:
- Ensure child has access to all appropriate academic resources both in school and at home
- Provide structure and adhere to a consistent daily routine with clear and concise rules
- Facilitate successful experiences
- Provide tutoring if needed
- Pair with adult mentor or buddy
- Be flexible with assignments
- Offer several alternatives from which all students can choose.
- Give students extra time to complete tests
- Give students objective tests: matching, multiple choice, etc.
- Test key concepts or main ideas
- Answer fewer or different test questions
- Graph paper to assist in organizing or lining up math problems
- Use of computers and calculators
- Answers to be dictated
- Accept short answers
- Open-book or open-note tests
- Allow students to complete assignments in school
- Do not penalize for late or missing assignments/materials
- Offer encouragement and understanding
- Allow students to have personal possessions and property in school

- Give choice to provide a sense of control

Economically Disadvantaged:
- Provide clear, achievable expectations, do not lower academic requirements for them.
- Build a safe and nurturing atmosphere
- Be flexible with assignments
- Providing needed academic resources (paper, pencils, computer time)
- Provide materials for all assignments in class and at home
- Offer several alternatives from which all students can choose.
- Allow students to finish assignments independently, or give them the opportunity to complete tasks at their own pace.
- Use real-world examples and create mental models for abstract idea
- Provide increased knowledge base and vocabulary use about real world experiences.
- Share the decision making in class.
- Maintain expectations while offering choice and soliciting input

Culturally Diverse:
- Involve families in student learning
- Provide social/emotional support
- Respect cultural traditions

- Build in more group work to encourage interaction with peers
- Show photos, videos, and definitions when possible for culturally unique vocabulary
- Translate directions into native language
- Teach study skills
- Provide students with necessary academic resources and materials
- Allow students to demonstrate knowledge through alternative assessments
- Provide visuals
- Assign peer tutor
- Support verbal explanations with non verbal cues: Gestures/ facial expressions Props, realia, manipulatives, concrete materials,visuals, graphs, pictures, maps
- Provide positive praise to increase motivation
- Provide real world connections and emphasize the value of education
- Communicate high expectations for the success of all students
- Integrate the arts into learning activities

Core Instructional & Supplemental Materials

Suggested Activities/Resources:
- <u>Fraction top it-</u> Players flip over one fraction card and compare who has the greater fraction.
- <u>Equivalent Fraction strip game-</u> Use 5 strips of paper. Each strip represents 1 whole, halves, quarters, eighths, and sixteenths. Students play with a partner to roll a fraction dice to place the fraction represented on the dice onto the whole. First person to fill in their whole strip wins.
- <u>Cut It Up-</u> Students work with graham crackers to create different fractions and identify how as the denominator increases the size of each piece decreases
- <u>Recipe Fractions-</u> Students follow a recipe and explore how fractions are used in the real world. Students will pretend to be a chef and present the recipe to a mock "menu ¨, identifying how many people the recipe can feed.
- Around the World: Flashcard Practice
- Sushi Monsters iPad Application- Basic Fact Practice
- Fractions Game
- Reflexmath.com
- Happynumbers.com
- Achieve3000: Differentiated Instruction Solutions

Varied Levels of Text:
- *Fraction Fun* by David Adler
- *Give Me Half!* By Stuart Murphy
- *Clean Sweep Campers* by Lucille Recht Penner
- *Hershey's Fractions Book* by Jerry Pallotta
- *Divide and Ride* by Stuart J. Murphy
- *Everybody Wins!* Bruce, Sheila M
- *The Great Divide* Dodds, Dayle Ann N
- *If You Were A Divided-By Sign* Shaskan, Trisha Speed
- *If You Were A Times Sign* Shaskan, Trisha Speed
- *Jump, Kangaroo, Jump!* Murphy, Stuart J.
- *Mummies In The Library: Divide The Pages* Perritano, John Q
- *Fractions = Trouble!* Mills, Claudia M
- *Building An Igloo* Steltzer, Ulli NF
- *If You Were A Polygon* Aboff, Marcie
- *Mummy Math* Neuschwander, Cindy P
- *Shape Up!* Adler, David A.
- *Coyotes All Around* Murphy, Stuart J. O
- *Earth Day — Hooray!* Murphy, Stuart J. Q
- *Great Estimations* Goldstone, Bruce Q

- Online Math Games - ST Math - Math Playground - ABCya - Funbrain - Flocabulary - GoNoodle - Number Rock - TheBazillions-YouTube - BrainPop.com - Gizmos	

Evidence of Student Learning	
Formative Tasks: - Teacher Observation - Anecdotal Records/ Checklists - Oral Assessments/Conferencing - Analysis of student work - Daily Review - Solve and Share - Quick Check Quizzes - Exit Slips - Cooperative Group Learning - Games - Self-reflection - Math Center Activities - Math Games - Draw and Show - Math Journals	**Alternative Assessments:** - Performance Tasks - Student created models - Written/verbal explanations - Peer assessment - Self-assessment - Checklists - Rubrics - Portfolio/Math Journals
Summative Assessments: - Show-What-You-Know - Mid-Chapter Checkpoints - Chapter Test	**Benchmark Assessments:** - Beginning of Year SGO - Mid-Year SGO - End of Year SGO

Critical Area 4: Geometry (Chapters 11-12)	**Duration: 25 Days- ongoing**
Standards/Learning Targets	

New Jersey Student Learning Standards:
- 3.MD.C.5:Recognize area as an attribute of plane figures and understand concepts of area measurement.
- 3.G.A.1: Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories
- 3.G.A.2:Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.
- 3.NF.A.1: Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.
- 3.NF.A.3: Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.
- 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.

Standards for Mathematical Practice:
- MP.1 Make sense of problems and persevere in solving them.
- MP.2 Reason Abstractly and quantitatively.
- MP.3 Construct viable arguments and critique the reasoning of others.
- MP.4 Model with mathematics.
- MP.5 Use appropriate tools strategically.
- MP.6 Attend to precision.
- MP.7 Look for and make use of structure.
- MP.8 Look for and express regularity in repeated reasoning.

Interdisciplinary Connections:
ELA:
- SL.3.3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

Career Ready Practices:
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP4. Communicate clearly and effectively and with reason.
- CRP12. Work productively in teams while using cultural global competence.

21st Century Life and Career Standards:

- 9.1.4.A.1- Explain the difference between a career and a job, and identify various jobs in the community and the related earnings.

Technology:
- 8.1.2.A.1 Identify the basic features of a digital device and explain its purpose.
- 8.1.2.A.4 Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).
- 8.2.2.C.1 Brainstorm ideas on how to solve a problem or build a product
- 8.1.2.E.1 Use digital tools and online resources to explore a problem or issue.
- 8.2.2.E.1 List and demonstrate the steps to an everyday task

Accommodations/Modifications

English Language Learners:
- Provide written directions with models and diagrams when possible
- Build in more group work to allow ELL students to interact and communicate with peers
- Pre-teach as often as possible- share photos, videos, articles, vocabulary etc. with ELL students prior to use in class
- Provide vocabulary ahead of time
- Use sentence frames to give students practice with academic language
- Highlight key words
- Utilize visual charts/cues
- Frequently check for understanding
- Test key concepts and main ideas
- Simplify written and verbal instructions
- Give students objective tests: matching, multiple choice, etc.
- Provide manipulatives
- Allow extra time
- Use alternative assessments such as physical demonstration and pictorial products
- Provide shorter assessments
- Grade content vs. mechanics
- Read assessments aloud
- Allow open-book or open-note tests

Special Education/Students with Disabilities:
- Follow specific students accommodations and modifications as listed in individual student IEP
- Provide opportunities for movement
- Have manipulatives and other math resources available for student use
- Incorporate small group instruction
- Utilize visual charts/cues
- Facilitate successful experiences
- Provide tutoring if needed
- Provide positive praise to increase motivation
- Differentiate tests to meet the needs of students
- Shorten tests and give in multiple sessions if needed
- Reteach/Review before giving assessments

- Read assessment directions for each section to student(s)
- Allow the use of tools such as a computer or iPad
- Allow the use of manipulatives such as counters during testing
- Highlight key parts of equations or word problems for student(s)
- Allow verbal answers
- Print tests with larger font
- Allow for extra time if needed/necessary

504 Plans
- Follow specific students accommodations and modifications as listed in individual student 504 plan
- Provide opportunities for movement
- Have manipulatives and other math resources available for student use
- Incorporate small group instruction
- Utilize visual charts/cues
- Facilitate successful experiences
- Provide tutoring if needed
- Provide positive praise to increase motivation
- Differentiate tests to meet the needs of students
- Shorten tests and give in multiple sessions if needed
- Reteach/Review before giving assessments
- Read assessment directions for each section to student(s)
- Allow the use of tools such as a computer or iPad
- Allow the use of manipulatives such as counters during testing
- Highlight key parts of equations or word problems for student(s)
- Allow verbal answers
- Print tests with larger font
- Allow for extra time if needed/necessary

Students at Risk of Failure:
- Ensure child has access to all appropriate academic resources both in school and at home
- Provide structure and adhere to a consistent daily routine with clear and concise rules
- Facilitate successful experiences
- Provide tutoring if needed
- Pair with adult mentor or buddy
- Be flexible with assignments
- Offer several alternatives from which all students can choose.
- Give students extra time to complete tests
- Give students objective tests: matching, multiple choice, etc.
- Test key concepts or main ideas
- Answer fewer or different test questions
- Graph paper to assist in organizing or lining up math problems
- Use of computers and calculators
- Answers to be dictated
- Accept short answers
- Open-book or open-note tests
- Allow students to complete assignments in school

- Do not penalize for late or missing assignments/materials
- Offer encouragement and understanding
- Allow students to have personal possessions and property in school
- Give choice to provide a sense of control

Economically Disadvantaged:
- Provide clear, achievable expectations, do not lower academic requirements for them.
- Build a safe and nurturing atmosphere
- Be flexible with assignments
- Providing needed academic resources (paper, pencils, computer time)
- Provide materials for all assignments in class and at home
- Offer several alternatives from which all students can choose.
- Allow students to finish assignments independently, or give them the opportunity to complete tasks at their own pace.
- Use real-world examples and create mental models for abstract idea
- Provide increased knowledge base and vocabulary use about real world experiences.
- Share the decision making in class.
- Maintain expectations while offering choice and soliciting input

Culturally Diverse:
- Involve families in student learning
- Provide social/emotional support
- Respect cultural traditions

- Build in more group work to encourage interaction with peers
- Show photos, videos, and definitions when possible for culturally unique vocabulary
- Translate directions into native language
- Teach study skills
- Provide students with necessary academic resources and materials
- Allow students to demonstrate knowledge through alternative assessments
- Provide visuals
- Assign peer tutor
- Support verbal explanations with non verbal cues: Gestures/ facial expressions Props, realia, manipulatives, concrete materials,visuals, graphs, pictures, maps
- Provide positive praise to increase motivation
- Provide real world connections and emphasize the value of education
- Communicate high expectations for the success of all students
- Integrate the arts into learning activities

Knowledge & Skills

	Essential Questions/Understandings: ● What are some ways to describe and classify two-dimensional shapes? (Chapter 12)

Core Instructional & Supplemental Materials

Suggested Activities/Resources:
- Around the World: Flashcard Practice
- Sushi Monsters iPad Application- Basic Fact Practice
- Reflexmath.com
- Happynumbers.com
- Achieve3000: Differentiated Instruction Solutions
- Online Math Games
- ST Math
- ABCya
- Funbrain
- Math Playground
- Flocabulary
- GoNoodle
- Number Rock
- TheBazillions-YouTube
- BrainPop.com
- Gizmos

Varied Levels of Text:
- *Working with Fractions* by David Adler
- *The Wishing Club: A Story About Fractions* by Donna Jo Napoli
- *Fraction Action* by Loreen Leedy
- *Wholey Cow: Fractions Are Fun* by Taryn Souder
- *Divide and Ride* by Stuart J. Murphy
- *Everybody Wins!* Bruce, Sheila M
- *The Great Divide* Dodds, Dayle Ann N
- *If You Were A Divided-By Sign* Shaskan, Trisha Speed
- *If You Were A Times Sign* Shaskan, Trisha Speed
- *Jump, Kangaroo, Jump!* Murphy, Stuart J.
- *Mummies In The Library: Divide The Pages* Perritano, John Q
- *Fractions = Trouble!* Mills, Claudia M
- *Building An Igloo* Steltzer, Ulli NF
- *If You Were A Polygon* Aboff, Marcie
- *Mummy Math* Neuschwander, Cindy P
- *Shape Up!* Adler, David A.
- *Coyotes All Around* Murphy, Stuart J. O
- *Earth Day — Hooray!* Murphy, Stuart J. Q
- *Great Estimations* Goldstone, Bruce Q

Evidence of Student Learning

Formative Tasks:
- Teacher Observation
- Anecdotal Records/ Checklists
- Oral Assessments/Conferencing
- Analysis of student work
- Daily Review
- Solve and Share
- Quick Check Quizzes
- Exit Slips
- Cooperative Group Learning
- Games
- Self-reflection
- Math Center Activities

Alternative Assessments:
- Performance Tasks
- Student created models
- Written/verbal explanations
- Peer assessment
- Self-assessment
- Checklists
- Rubrics
- Portfolio/Math Journals

● Math Games ● Draw and Show ● Math Journals	
Summative Assessments: ● Show-What-You-Know ● Mid-Chapter Checkpoints ● Chapter Test	**Benchmark Assessments:** ● Beginning of Year SGO ● Mid-Year SGO ● End of Year SGO