## Introduction:

Students in Second 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: | July 13th, 2O21 |
| Revised by: | Katie Micek |
| Proposed <br> Revision Date | Summer 2O24 |


| Beach Haven School District <br> Mathematics Curriculum |  |
| :---: | :---: |
| Content Area: Math |  |
| Course Title: Math | Grade Level: 2 |
| Instructional Materials: "Go Math" |  |
| Critical Area 1: Number Sense and Place Value (Chapters 1-2) <br> Focus: <br> - Work with equal groups of objects to gain foundations for multiplication. <br> - Understand place value. <br> - Use place value understanding and properties of operations to add and subtract. | 35 Days- ongoing |
| Critical Area 2: Addition and Subtraction (Chapters 3-6) <br> Focus: <br> - Represent and solve problems involving addition and subtraction. <br> - Add and subtract within 20. <br> - Use place value understanding and properties of operations to add and subtract. | 60 Days- ongoing |
| Critical Area 3: Measurement and Data (Chapters 7-10) <br> Focus: <br> - Measure and estimate lengths in standard units. <br> - Relate addition and subtraction to length. <br> - Work with time and money. <br> - Represent and interpret data. | 50 Days- ongoing |

Critical Area 4: Geometry and Fractions (Chapters 11-12)
Focus:

## 35 Days- ongoing

- Reason with shapes and their attributes.

Critical Area 1: Number Sense and Place Value
Duration: 35 Days- ongoing (Chapters 1-2)

## Standards/Learning Targets

New Jersey Student Learning Standards:

- 2.NBT.A.1-Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones.
- 2.NBT.A.2- Count within 1000; skip-count by 5 s , 10 s , and 100 s .
- 2.NBT.A.3- Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
- 2.NBT.A.4- Compare two three-digit numbers based on the meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.
- 2.NBT.B.8- Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.
- 2.OA.C.3- Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2 s ; write an equation to express an even number as a sum of two equal addends.
Standards for Mathematical Practice:
- MP. 1 Make sense of problems and persevere in solving them.
- MP. 2 Reason abstractly and quantitatively.
- MP. 4 Model with mathematics.
- MP. 7 Look for and make use of structure.
- MP. 8 Look for and express regularity in repeated reasoning.


## Interdisciplinary Connections:

ELA:

- SL.2.3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.


## 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


## Modifications and Accommodations

## English Language Learners:

- Simplify written and verbal instructions
- Provide written directions with models and diagrams when possible
- Build in more group work to allow ELL students to interact and communicate with peers
- Provide vocabulary ahead of time
- Use sentence frames to give students practice with academic language
- Pre-teach as often as possible- share photos, videos, articles, vocabulary etc. with

ELL students prior to use in class

- Utilize visual charts/cues
- Highlight key words
- Provide manipulatives
- Frequently check for understanding
- Test key concepts and main ideas
- Give students objective tests: matching, multiple choice, etc.
- Provide manipulatives
- Allow extra time
- Provide shorter assessments
- Provide alternative assessments such as physical demonstration and pictorial products
- Grade content vs. mechanics
- Read assessments aloud
- Allow open-book or open-note tests

504:

- Follow specific students accommodations and modifications as listed in individual student 504
- 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)

Special Education/Students with Disabilities:

- Follow specific students accommodations and modifications as listed in individual student IEP
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- 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

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## Essential Questions/Understandings:

- How do you use place value to find the values of numbers and describe numbers in different ways? (Chapter 1)
- How can you use place value to model, write, and compare 3-digit numbers? (Chapter 2)


## Core Instructional \& Supplemental Materials

Suggested Activities/Resources:

- Around the World: Flashcard Practice
- Bingo- Basic Facts
- Sushi Monsters iPad

Application- Basic Fact Practice

- Happy Numbers
- Toy Theater
- Pink Cat Games
- Math Playground
- ABCya
- Funbrain
- Flocabulary
- GoNoodle
- Number Rock
- Prodigy
- Xtramath.org
- Seesaw
- Online games
- Prodigy
- ThinkCentral Dashboard
- Grab\&Go Centers
- Animated Math Models
- Interactive Student Edition


## Varied Levels of Text:

Count on Pablo, deRubertis, Barbara
Dinosaur Dig Clemson, Wendy and Frances
The Doorbell Rang Hutchins, Pat
Double The Ducks Murphy, Stuart J.
Firefighters To The Rescue Clemson, Wendy and David
If You Were A Minus Sign Shaskan, Trisha Speed
If You Were A Plus Sign Shaskan, Trisha Speed
Is It Odd Or Even? Carroll, Danielle K Math Appeal: Mind-Stretching Math Riddles Tang, Greg L Geometry Dowdy, Penny M If You Were A Circle Blaisdell, Molly If You Were A Triangle Aboff, Marcie Shapes In Art Wall, Julia M
The Coin Counting Book Williams, Rozanne L.

A Day At Mini-Golf: What's The Length?
Loughran, Donna
Can You Count To A Googol? Wells, Robert E.

Leaping Lizards Murphy, Stuart J

## 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 2: Addition and Subtraction (Chapters 3-6)

## Duration: 60 Days- ongoing

## Standards/Learning Targets

## New Jersey Student Learning Standards:

- 2.OA.B. 2 - Fluently add and subtract within 20 using mental strategies. By the end of Grade 2, know from memory all sums of two one-digit numbers.
- 2.OA.A.1-Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
- 2.OA.C.4- Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.
- 2. NBT.B.5- Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
- 2.NBT.B. 6 -Add up to four two-digit numbers using strategies based on place value and properties of operations.
- 2. NBT.B.7-Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones, and sometimes it is necessary to compose or decompose tens or hundreds.
- 2. NBT.B.9- Explain why addition and subtraction strategies work, using place value and the properties of operations.
Standards for Mathematical Practice:
- MP. 2 Reason Abstractly and quantitatively.
- MP. 3 Construct viable arguments and critique the reasoning of others.
- MP. 5 Use appropriate tools strategically.
- MP. 7 Look for and make use of structure.
- MP. 8 Look for and express regularity in repeated reasoning.


## Interdisciplinary Connections:

ELA:

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## Knowledge \& Skills

## Essential Question/Understandings:

- How can you use patterns and strategies to find sums and differences for basic facts? (Chapter 3)
- How do you use place value to add 2-digit numbers, and what are some different ways to add 2-digit numbers? (Chapter 4)
- How do you use place value to subtract 2-digit numbers with and without regrouping? (Chapter 5)
- What are some strategies for adding and subtracting 3-digit numbers? (Chapter 6)


## Core Instructional \& Supplemental Materials

Suggested Activities/Resources:

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## Standards/Learning Targets

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- 2.MD.B.6- Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers $0,1,2, \ldots$, and represent whole-number sums and differences within 100 on a number line diagram.
- 2.MD.C.7- Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
- 2.MD.A.1- Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
- 2.MD.A.3- Estimate lengths using units of inches, feet, centimeters, and meters.
- 2.MD.A.2- Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
- 2.MD.A.4- Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.
- 2.MD.C.8- Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $\$$ and $\phi$ symbols appropriately.
- 2.MD.D. 9 - Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.
- 2.MD.D. 10 - Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put together, take-apart, and compare problems using information presented in a bar graph.


## Interdisciplinary Connections:

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## Knowledge \& Skills

## Essential Questions/Understandings:

- How do you use the values of coins and bills to find the total value of a group of money, and how do you read times shown on analog and digital clocks? (Chapter 7)
- What are some of the methods and tools that can be used to estimate and measure length? (Chapter 8)
- What are some of the methods and tools that can be used to estimate and measure length in metric units? (Chapter 9)
- How do tally charts, picture graphs, and bar graphs help you solve problems? (Chapter 10)


## Core Instructional \& Supplemental Materials

## Suggested Activities/Resources:

- Around the World: Flashcard Practice
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Application- Basic Fact Practice

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- 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 and Fractions (Chapters 11-12)

## Duration: 35 Days- ongoing

## Standards/Learning Targets

## New Jersey Student Learning Standards:

- 2.G.A.1- Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
- 2.G.A.2-Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
- 2.G.A.3- Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half-of, a third-of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.

Standards for Mathematical Practice:

- 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.
- MP. 6 Attend to precision.
- MP. 8 Look for and express regularity in repeated reasoning.


## Interdisciplinary Connections:

ELA:

- SL.2.3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.


## 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


## Modifications and Accommodations

## English Language Learners:

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

504:

- Follow specific students accommodations and modifications as listed in individual student 504
- 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)


## 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


## 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 two-dimensional shapes and three-dimensional shapes, and how can you show equal parts of shapes? (Chapter 11 \& 12)


## Core Instructional \& Supplemental Materials

Suggested Activities/Resources:

- Around the World: Flashcard Practice
- Bingo- Basic Facts
- Sushi Monsters iPad Application- Basic Fact Practice
- Happy Numbers
- Reflex Math
- Better Lessons
- Achieve3000: Differentiated Instruction Solutions
- Smarty Ants
- ST Math
- Online Math Games
- Mathseeds
- Math Playground
- ABCya
- Funbrain
- Flocabulary
- GoNoodle
- Number Rock
- TheBazillions-YouTube
- Prodigy
- Xtramath.org
- Seesaw
- Online games
- Prodigy
- ThinkCentral Dashboard
- Grab\&Go Centers
- Animated Math Models
- Interactive Student Edition


## Varied Levels of Text:

Dinosaur Dig Clemson, Wendy and Frances
The Doorbell Rang Hutchins, Pat
Double The Ducks Murphy, Stuart J.
Firefighters To The Rescue Clemson, Wendy and David
If You Were A Minus Sign Shaskan, Trisha Speed
If You Were A Plus Sign Shaskan, Trisha Speed
Is It Odd Or Even? Carroll, Danielle K Math Appeal: Mind-Stretching Math Riddles Tang, Greg L Geometry Dowdy, Penny M If You Were A Circle Blaisdell, Molly

If You Were A Triangle Aboff, Marcie
Shapes In Art Wall, Julia M
The Coin Counting Book Williams, Rozanne L.

A Day At Mini-Golf: What's The Length?
Loughran, Donna
Can You Count To A Googol? Wells, Robert E.

Leaping Lizards Murphy, Stuart J

## 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

Alternative Assessments:

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

| - Math Center Activities <br> - Math Games <br> - Draw and Show <br> - Math Journals |  |
| :---: | :---: |
| Summative Assessments: <br> - Show-What-You-Know <br> - Mid-Chapter Checkpoints <br> - Chapter Test | Benchmark Assessments: <br> - Beginning of Year SGO <br> - Mid-Year SGO <br> - End of Year SGO |

