

| | |
|-----------------|----------------------------------|
| Grade: 4 | Content Area: Mathematics |
|-----------------|----------------------------------|

Introduction

Students in Grade 4 Mathematics will complete three units. 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: 4 |
| Instructional Materials: "Go Math" | |
| <p>Critical Area 1: Place Value and Operations with Whole Numbers (Chapters 1-5)</p> <p style="text-align: center;">Focus:</p> <ul style="list-style-type: none"> ● Use the four operations with whole numbers to solve problems. ● Generalize place value understanding for multi-digit whole numbers. ● Use place value understanding and properties of operations to perform multi-digit arithmetic. | 70 Days- ongoing |
| <p>Critical Area 2: Fractions and Decimals (Chapters 6-9)</p> <p style="text-align: center;">Focus:</p> <ul style="list-style-type: none"> ● Extend understanding of fraction equivalence and ordering. ● Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers. | 60 Days- ongoing |
| <p>Critical Area 3: Geometry, Measurement, and Data (Chapters 10-13)</p> <p style="text-align: center;">Focus:</p> <ul style="list-style-type: none"> ● Draw and identify lines and angles, and classify shapes by properties of their lines and angles. | 50 Days- ongoing |

Critical Area 1: Place Value and Operations with Whole Numbers

Duration: 70 Days- ongoing

Standards/Learning Targets

New Jersey Student Learning Standards:

- **4.NBT.A.1** Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.
- **4.NBT.A.2** Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on the meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.
- **4.NBT.A.3** Use place value understanding to round multi-digit whole numbers to any place.
- **4.NBT.B.5:** Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models
- **NBT.B.6:** Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or
- **4.OA.A.3:** Solve multi step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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

Standards for Mathematical Practice:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Interdisciplinary Connections:**ELA:**

- SL.4.3. Identify the reasons and evidence a speaker provides to support particular points.

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 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

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:

- 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
- 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
- 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
- Teach study skills

- Provided students with necessary academic resources and materials
- Allow for alternative assignments
- 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

Knowledge & Skills

Essential Questions/Understandings:

- How can you use place value to compare, add, subtract, and estimate with whole numbers? (Chapter 1)
- What strategies can you use to multiply by 1-digit numbers? (Chapter 2)
- What strategies can you use to multiply by 2-digit numbers? (Chapter 3)
- How can you divide by 1-digit numbers? (Chapter 4)
- How can you find factors and multiples, and how can you generate and describe number patterns? (Chapter 5)

Core Instructional & Supplemental Materials

Suggested Activities/Resources:

- [Happy Numbers](#)
- [Reflex Math](#)
- [Better Lessons](#)
 - [Number & Operations in Base Ten](#)
 - [Operations & Algebraic Thinking](#)
- ST Math
- Self-reflection
- Math Center Activities
- Math Games
- Draw and Show
- Math Journals
- Bedtime Math
- Xtra Math
- Number Rock
- Math Antics
- Khan Academy
- Prodigy

Varied Levels of Text:

- Marilyn Burns Math Libraries Grade 4-6
http://teacher.scholastic.com/reading/bestpractices/pdfs/mbmath_TitleList.pdf

Evidence of Student Learning

| | |
|--|---|
| <p>Formative Tasks:</p> <ul style="list-style-type: none"> ● Solve and Share ● Quick Check quizzes ● Daily Review ● Cooperative group learning ● Exit slips ● Analysis of student work ● Teacher observations/anecdotal/checklists ● Self-reflection ● Math journals | <p>Alternative Assessments:</p> <ul style="list-style-type: none"> ● Performance Tasks ● Student created models ● Written/verbal explanations ● Peer assessment ● Self-assessment |
| <p>Summative Assessments:</p> <ul style="list-style-type: none"> ● Show-What-You-Know ● Mid-Chapter Checkpoints ● Chapter Test | <p>Benchmark Assessments:</p> <ul style="list-style-type: none"> ● Beginning of the year, mid year, and end of the year |

Critical Area 2: Fractions and Decimals
(Chapters 6-9)

Duration: 60 Days- ongoing

Standards/Learning Targets

- **4.NF.A.1** Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. (Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100).
- **4.NF.A.2** Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.
- **4.NF.B.4:** Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.
- **4.NF.B.4a:** Understand a fraction a/b as a multiple of $1/b$.
- **4.NF.B.4b:** Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number.
- **4.NF.B.4c:** Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem.

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.6 Attend to precision.

Interdisciplinary Connections:

ELA:

- SL.4.3. Identify the reasons and evidence a speaker provides to support particular points.

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 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

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:

- 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
- 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
- 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
- Teach study skills
- Provided students with necessary academic resources and materials
- Allow for alternative assignments
- 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

Knowledge & Skills

Essential Questions/Understandings:

- What strategies can you use to compare fractions and write equivalent fractions? (Chapter 6)
- How do you add or subtract fractions that have the same denominator? (Chapter 7)
- How do you multiply fractions by whole numbers? (Chapter 8)
- How can you record decimal notation for fractions and compare decimal fractions? (Chapter 9)

Core Instructional & Supplemental Materials

Suggested Activities/Resources:

- [Happy Numbers](#)
- [Reflex Math](#)
- [Better Lessons](#)
 - [Number & Operations in Base Ten](#)
 - [Operations & Algebraic Thinking](#)
- ST Math
- Self-reflection
- Math Center Activities
- Math Games
- Draw and Show
- Math Journals
- Bedtime Math
- Xtra Math
- Number Rock
- Math Antics
- Khan Academy
- Prodigy

Varied Levels of Text:

- Marilyn Burns Math Libraries Grade 4-6
http://teacher.scholastic.com/reading/bestpractices/pdfs/mbmath_TitleList.pdf

Evidence of Student Learning

| | |
|--|---|
| <p>Formative Tasks:</p> <ul style="list-style-type: none"> ● Solve and Share ● Quick Check quizzes ● Daily Review ● Cooperative group learning ● Exit slips ● Analysis of student work ● Teacher observations/anecdotal/checklists ● Self-reflection ● Math journals | <p>Alternative Assessments:</p> <ul style="list-style-type: none"> ● Performance Tasks ● Student created models ● Written/verbal explanations ● Peer assessment ● Self-assessment |
| <p>Summative Assessments:</p> <ul style="list-style-type: none"> ● Show-What-You-Know ● Mid-Chapter Checkpoints ● Chapter Test | <p>Benchmark Assessments:</p> <ul style="list-style-type: none"> ● Beginning of the year, mid year, and end of the year |

| | |
|---|--|
| <p>Critical Area 3: Geometry, Measurement, and Data (Chapters 10-13)</p> | <p>Duration: 50 Days- ongoing</p> |
|---|--|

Standards/Learning Targets

New Jersey Student Learning Standards:

- 4.G.A.1: Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
- 4.G.A.2: Classify two-dimensional figures based on their properties (G5) and the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify
- 4.G.A.3: Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry

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.7 Look for and make use of structure.

Interdisciplinary Connections:

ELA:

- SL.4.3. Identify the reasons and evidence a speaker provides to support particular points.

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 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

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:

- 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
- 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
- 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
- Teach study skills
- Provided students with necessary academic resources and materials
- Allow for alternative assignments
- 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

Knowledge & Skills

Essential Questions/Understandings:

- How can you draw and identify lines and angles, and how can you classify shapes? (Chapter 10)
- How can you measure angles and solve problems involving angle measures? (Chapter 11)
- How can you use relative sizes of measurements to solve problems and to generate measurement tables that show a relationship? (Chapter 12)
- How can you use formulas for perimeter and area to solve problems? (Chapter 13)

Core Instructional & Supplemental Materials

Suggested Activities/Resources:

- [Happy Numbers](#)
- [Reflex Math](#)
- [Better Lessons](#)
 - [Number & Operations in Base Ten](#)
 - [Operations & Algebraic Thinking](#)
- ST Math
- Self-reflection
- Math Center Activities
- Math Games
- Draw and Show
- Math Journals
- Bedtime Math
- Xtra Math
- Number Rock
- Math Antics
- Khan Academy
- Prodigy

Varied Levels of Text:

- Marilyn Burns Math Libraries Grade 4-6
http://teacher.scholastic.com/reading/bestpractices/pdfs/mbmath_TitleList.pdf

Evidence of Student Learning

| | |
|---|--|
| Formative Tasks: <ul style="list-style-type: none">● Solve and Share● Quick Check quizzes● Daily Review● Cooperative group learning● Exit slips● Analysis of student work● Teacher observations/anecdotal/checklists● Self-reflection● Math journals | Alternative Assessments: <ul style="list-style-type: none">● Performance Tasks● Student created models● Written/verbal explanations● Peer assessment● Self-assessment |
| Summative Assessments: <ul style="list-style-type: none">● Show-What-You-Know● Mid-Chapter Checkpoints● Chapter Test | Benchmark Assessments: <ul style="list-style-type: none">● Beginning of the year, mid year, and end of the year |