

Long Beach Island Consolidated School District Curriculum Guide

Grade: 2	Content Area: Math
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Introduction:

Students in Second Grade Math will complete 4 units that focus on these critical areas: building fluency with addition and subtraction; extending understanding of base-ten notation; using standard units of measure; representing and interpreting data; and describing and analyzing shapes. All Math units follow the NJ Student Learning Objectives. Student progress will be measured in a variety of methods.

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Grade: 2

Content Area: Math

Original Adoption: October 23, 2018

Revised on: July 1, 2019

Revised by: A. Ferrer

Recommended Pacing Guide

Unit 1: Add and Subtract within 100- Understand place value to 1000	41 Days
Unit 2: Place Value Strategies for Addition & Subtraction	83 Days
Unit 3: Measurement	32 Days
Unit 4: Reason with Shapes and Represent Data	21 Days

**Unit 1: Add and Subtract within 100-
Understand place value to 1000**

In this unit students will extend their understanding of the base-ten system. This includes ideas of counting in fives, tens, and multiples of hundreds, tens, and ones, as well as number relationships involving these units, including comparing. Students understand multi-digit numbers (up to 1000) written in base-ten notation, recognizing that the digits in each place represent amounts of thousands, hundreds, tens, or ones.

Duration: 41 Days

Standards/Learning Targets

New Jersey Student Learning Standards:

- **2.NBT.A.3-** Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
- **2.NBT.A.2-** Count within 1000; skip-count by 5s, 10s, and 100s.
- **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.

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- **2.NBT.A.4-** Compare two three-digit numbers based on 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.B.2-** Add and subtract within 20.
- **2.OA.A.1-** Represent and solve problems involving addition and subtraction.

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:

Reading:

- **RI.2.4:** Determine the meaning of words and phrases in a text relevant to a *grade 2 topic or subject area*.

Speaking and Listening:

- **SL.2.1.A:** Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
- **SL.2.1.B:** Build on others' talk in conversations by linking their explicit comments to the remarks of others.
- **SL.2.1.C:** Ask for clarification and further explanation as needed about the topics and texts under discussion.
- **SL.2.6:** Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

Writing:

- **W.2.5:** With guidance and support from adults and peers, focus on a topic and strengthen writing as needed through self-reflection, revising and editing.

Technology Standards:

- **8.1.2.A.4:** Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).
- **8.1.2.E.1:** Use digital tools and online resources to explore a problem or issue.

21st Century Themes/Career Readiness:

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.

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- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.

21st Century Life and Career Standards:

- 9.2.4.A.1 Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals.
- 9.2.4.A.2 Identify various life roles and civic and work-related activities in the school, home, and community
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.

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

Summative Assessments:

- Topic Tests
- Topic Performance Assessments
- Timed Basic Fact Quizzes

Benchmark Assessments:

- Pearson Benchmark Assessments
- Beginning of Year SGO
- Mid-Year SGO
- End of Year SGO

Knowledge & Skills

Enduring Understandings:

- Represent and solve problems involving addition and subtraction.
- Understand place value.
- Add and subtract within 20.
- Use place value understanding and properties of operations to add and subtract.

Essential Questions:

- How would you add and subtract within 20 to solve 1- and 2-step word problems with unknowns in any position?
- Can you fluently add and subtract within 10 using mental strategies?
- Can you model a 3-digit number in specific amounts of 100s, 10s, and

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- 1s?
- How would you show ten tens as 100 and represent two hundred, three hundred, ..., nine hundred with 2, 3, ..., 9 hundred bundles (with zero tens and zero ones)?
- Can you skip count by 5s and 10s up to 100?
- How do you read numbers to 1000? Which number do you say first?
- How do you write numbers to 1000? Which number do you write first?
- How can decomposing a three digit number help you compare the value of the numbers?
- Can you mentally add or subtract 10 or 100 from any given number between 100 and 900?

Core Instructional & Supplemental Materials

Suggested Activities/Resources:

- Around the World: Flashcard Practice
- Bingo- Basic Facts
- Pearson Envision 2.0 2016
- SMARTboard applications
- 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](#)

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

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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

Special Education/504 Plans/Students with Disabilities:

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

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- 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

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- 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

Unit 2: Place Value Strategies for Addition & Subtraction

In this unit students will use their understanding of addition to develop fluency with addition and subtraction within 100. They solve problems within 1000 by applying their understanding of models for addition and subtraction, and they develop, discuss, and use efficient, accurate, and generalizable methods to compute sums and differences of whole numbers in base-ten notation, using their understanding of place value and the properties of operations.

Duration: 83 Days

Standards/Learning Targets

New Jersey Student Learning Standards:

- **2.OA.A.1-** Represent and solve problems involving addition and subtraction.
- **2.OA.B.2-** Add and subtract within 20.
- **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 2s; write an equation to express an even number as a sum of two equal addends.
- **2.OA.C.4-** Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and 5 columns; write an equation to express the total as a sum of equal addends.
- **2.NBT.A.2-** Count within 1000; skip-count by 5s, 10s, and 100s.
- **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.

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- **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.
- **2.G.A.2-** Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.

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:

Reading:

- **RI.2.4:** Determine the meaning of words and phrases in a text relevant to a *grade 2 topic or subject area*.

Speaking and Listening:

- **SL.2.1.A:** Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
- **SL.2.1.B:** Build on others' talk in conversations by linking their explicit comments to the remarks of others.
- **SL.2.1.C:** Ask for clarification and further explanation as needed about the topics and texts under discussion.
- **SL.2.6:** Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

Writing:

- **W.2.5:** With guidance and support from adults and peers, focus on a topic and strengthen writing as needed through self-reflection, revising and editing.

Technology Standards:

- **8.1.2.A.4:** Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).
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21st Century Themes/Career Readiness:

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.

21st Century Life and Career Standards:

- 9.2.4.A.1 Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals.
- 9.2.4.A.2 Identify various life roles and civic and work-related activities in the school, home, and community
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.

Evidence of Student Learning

Formative Tasks:

- Teacher Observation
- Anecdotal Records/ Checklists
- Oral Assessments/Conferencing
- Analysis of student work
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- Exit Slips
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Alternative Assessments:

- Performance Tasks
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Summative Assessments:

- Topic Tests
- Topic Performance Assessments
- Timed Basic Fact Quizzes

Benchmark Assessments:

- Pearson Benchmark Assessments
- Beginning of Year SGO
- Mid-Year SGO
- End of Year SGO

Knowledge & Skills

Enduring Understandings:

- Work with equal groups of objects to gain foundations for multiplication.
- Use place value understanding and

Essential Questions:

- Can you add and subtract within 100 to solve 1- and 2-step word problems with unknowns in any position?

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<p>properties of operations to add and subtract.</p> <ul style="list-style-type: none"> ● Understand place value. ● Add and subtract within 20. ● Represent and solve problems involving addition and subtraction. 	<ul style="list-style-type: none"> ● What are mental strategies you can use to add and subtract fluently within 10? ● What are ways to recognize groups of even and odd numbers? ● What are ways you can write an equation to show even numbers? ● What addition strategies can you use to find the total number of objects arranged in rectangular arrays with up to 5 rows, and up to 5 columns? ● Can you write an equation to express the total as a sum of equal addends? ● Can you show how to partition a rectangle into rows and columns of same-size squares and count to find the total number? ● What strategies can you use to add and subtract within 50? ● What are strategies you can use to add up to four two-digit numbers? ● Can you add and subtract within 1000, using concrete models or drawings and strategies that can be related to written method? ● Can you explain why addition and subtraction strategies work using drawings or objects? ● What are ways you can count within 1000 by ones, 5s, 10s, and 100s beginning at any multiple of 1, 5, 10 or 100?
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Core Instructional & Supplemental Materials

<p>Suggested Activities/Resources:</p> <ul style="list-style-type: none"> ● Around the World: Flashcard Practice ● Bingo- Basic Facts ● Pearson Envision 2.0 2016 ● SMARTboard applications ● Sushi Monsters iPad Application- Basic Fact Practice ● Happy Numbers ● Reflex Math ● Better Lessons 	<p>Varied Levels of Text:</p> <p><i>Dinosaur Dig</i> Clemson, Wendy and Frances <i>The Doorbell Rang</i> Hutchins, Pat <i>Double The Ducks</i> Murphy, Stuart J. <i>Firefighters To The Rescue</i> Clemson, Wendy and David <i>If You Were A Minus Sign</i> Shaskan, Trisha Speed <i>If You Were A Plus Sign</i> Shaskan, Trisha Speed</p>
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- [Achieve3000: Differentiated Instruction Solutions](#)
- [Smarty Ants](#)
- [ST Math](#)
- [Online Math Games](#)
- [Mathseeds](#)
- [Math Playground](#)
- [ABCya](#)
- [Funbrain](#)
- [Flocabulary](#)
- [GoNoodle](#)
- [Number Rock](#)
- [TheBazillions-YouTube](#)

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

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

Special Education/504 Plans/Students with Disabilities:

- Follow specific students accommodations and modifications as listed in individual student IEP or 504 plan

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- 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)

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- 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

Unit 3: Measurement

In this unit students will recognize the need for standard units of measure (centimeter and inch) and they use rulers and other measurement tools with the understanding that linear measure involves an iteration of units. They recognize that the smaller the unit, the more iterations they need to cover a given length. Students will also learn how to tell and write time to the nearest 5 minutes from both analog and digital clocks.

Duration: 32 Days

Standards/Learning Targets

New Jersey Student Learning Standards:

- **2.NBT.A.2-** Count within 1000; skip-count by 5s, 10s, and 100s.
- **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

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subtraction.

- **2.MD.B.5-** Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
- **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, ..., 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.

Standards for Mathematical Practice:

- MP.2 Reason Abstractly and quantitatively.
- MP.5 Use appropriate tools strategically.
- MP.6 Attend to precision.
- MP.7 Look for and make use of structure.
- MP.8 Look for and express regularity in repeated reasoning.

Interdisciplinary Connections:

Reading:

- **RI.2.4:** Determine the meaning of words and phrases in a text relevant to a *grade 2 topic or subject area*.

Speaking and Listening:

- **SL.2.1.A:** Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
- **SL.2.1.B:** Build on others' talk in conversations by linking their explicit comments to the remarks of others.
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- **SL.2.6:** Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

Writing:

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- **W.2.5:** With guidance and support from adults and peers, focus on a topic and strengthen writing as needed through self-reflection, revising and editing.

Technology Standards:

- **8.1.2.A.4:** Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).
- **8.1.2.E.1:** Use digital tools and online resources to explore a problem or issue.

21st Century Themes/Career Readiness:

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP5. Consider the environmental, social and economic impacts of decisions.
- CRP6. Demonstrate creativity and innovation.
- CRP7. Employ valid and reliable research strategies.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.

21st Century Life and Career Standards:

- 9.2.4.A.1 Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals.
- 9.2.4.A.2 Identify various life roles and civic and work-related activities in the school, home, and community
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Evidence of Student Learning

Formative Tasks:

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Summative Assessments:

- Topic Tests
- Topic Performance Assessments
- Timed Basic Fact Quizzes

Benchmark Assessments:

- Pearson Benchmark Assessments
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- Mid-Year SGO
- End of Year SGO

Knowledge & Skills

Enduring Understandings:

- Measure and estimate lengths in standard units.
- Relate addition and subtraction to length.
- Work with time.
- Understand place value.
- Add and subtract within 20.
- Use place value understanding and properties of operations to add and subtract.

Essential Questions:

- How would you estimate lengths of objects and measure lengths of objects using appropriate tools?
- How can you write an addition equation with repeated equal addends?
- How do you know when to compare measurements of an object taken with two different units of measure, and how can you explain that the difference is related to the size of the unit chosen?
- How would you compare lengths of two objects and determine how much longer one object is than another using the same standard of measure?
- How can you add and subtract within 100 to solve word problems involving lengths using a symbol to represent the unknown number?
- How would you use a number line to represent the solution of whole number sums and differences related to length within 100?
- What are ways to tell and write time using analog and digital clocks to the nearest five minutes using AM and PM?
- How can you skip count to 1000 using 5s, 10s, and 100s?
- How will you add fluently within 20 using mental strategies?
- How can you explain which strategy you would use to add and subtract within 100?

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Core Instructional & Supplemental Materials

Suggested Activities/Resources:

- Around the World: Flashcard Practice
- Bingo- Basic Facts, Telling Time
- Pearson Envision 2.0 2016
- SMARTboard applications
- 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](#)
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- [Number Rock](#)
- [TheBazillions-YouTube](#)
- [Gizmos](#)

Varied Levels of Text:

Dinosaur Dig Clemson, Wendy and Frances
The Doorbell Rang Hutchins, Pat
How Big is a Foot?, Myller, Rolf
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.

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

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- 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

Special Education/504 Plans/Students with Disabilities:

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

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- 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

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Unit 4: Reason with Shapes and Represent Data

In this unit students will describe and analyze shapes by examining their sides and angles. Students investigate, describe, and reason about decomposing and combining shapes to make other shapes. Students will also work with money: identifying and learning values of coins and bills, along with solving word problems that involve money.

Duration: 21 Days

Standards/Learning Targets

New Jersey Student Learning Standards:

- **2.OA.B.2-** Add and subtract within 20.
- **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.MD.C.8-** Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?
- **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.
- **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.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.

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Interdisciplinary Connections:

Reading:

- **RI.2.4:** Determine the meaning of words and phrases in a text relevant to a *grade 2 topic or subject area*.

Speaking and Listening:

- **SL.2.1.A:** Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
- **SL.2.1.B:** Build on others' talk in conversations by linking their explicit comments to the remarks of others.
- **SL.2.1.C:** Ask for clarification and further explanation as needed about the topics and texts under discussion.
- **SL.2.6:** Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

Writing:

- **W.2.5:** With guidance and support from adults and peers, focus on a topic and strengthen writing as needed through self-reflection, revising and editing.

Technology Standards:

- **8.1.2.A.4:** Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).
- **8.1.2.A.5:** Enter information into a spreadsheet and sort the information.
- **8.1.2.E.1:** Use digital tools and online resources to explore a problem or issue.

21st Century Themes/Career Readiness:

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP3. Attend to personal health and financial well-being.
- CRP4. Communicate clearly and effectively and with reason.
- CRP5. Consider the environmental, social and economic impacts of decisions.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.

21st Century Life and Career Standards:

- 9.1.4.F.1 Demonstrate an understanding of individual financial obligations and community financial obligations.
- 9.2.4.A.1 Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals.

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- 9.2.4.A.2 Identify various life roles and civic and work-related activities in the school, home, and community
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.

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

Summative Assessments:

- Topic Tests
- Topic Performance Assessments
- Timed Basic Fact Quizzes

Benchmark Assessments:

- Pearson Benchmark Assessments
- Beginning of Year SGO
- Mid-Year SGO
- End of Year SGO

Knowledge & Skills

Enduring Understandings:

- Reason with shapes and their attributes.
- Work with money.
- Represent and interpret data.
- Add and subtract within 20.
- Use place value understanding and properties of operations to add and subtract.

Essential Questions:

- How would you draw shapes having specified attributes, such as a given number of angles or a given number of equal faces?
- Can you identify triangles, quadrilaterals, pentagons, hexagons, and cubes?
- Can you 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, and four fourths?
- How would you use tools of measurement to measure lengths of

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several objects to the nearest whole unit and represent the data on a line plot with appropriate whole number units on the horizontal scale?

- Can you draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories?
- What strategies would you use to solve simple put-together, take-apart, and compare problems using information presented in the graph?
- What are ways to identify, recognize, and solve word problems with dollar bills, quarters, dimes, nickels, and pennies using the \$ and ¢ symbols appropriately?
- What are strategies to add and subtract within 100 to solve 1- or 2-step word problems with unknowns in any position?
- What are strategies you can use when you add and subtract mentally within 20?
- Can you fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction?

Core Instructional & Supplemental Materials

Suggested Activities/Resources:

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Geometry Dowdy, Penny M
If You Were A Circle Blaisdell, Molly

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- [Online Math Games](#)
- [Mathseeds](#)
- [Math Playground](#)
- [ABCya](#)
- [Funbrain](#)
- [Flocabulary](#)
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If You Were A Triangle Aboff, Marcie
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- 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
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- Have manipulatives and other math resources available for student use
- Incorporate small group instruction
- Utilize visual charts/cues

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Content Area: Math

- 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)
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- Give choice to provide a sense of control

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- 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.

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- 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
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