MATHEMATICS – GRADE 2

EWING PUBLIC SCHOOLS
2099 Pennington Road
Ewing, NJ 08618

BOE Approval Date: November 25, 2019 Michael Nitti
Revised by: Donald Wahlers Superintendent

In accordance with The Ewing Public Schools' Policy 2230, Course Guides, this curriculum has been reviewed and found to be in compliance with all policies and all affirmative action criteria.

Table of Contents

Course Description and Rationale

In this second grade course in mathematics, students will delve into extending understanding of base-ten notation, building fluency with addition and subtraction, using standard units of measure and describing and analyzing shapes.

Students will use the following eight Mathematics Practices to demonstrate understanding of the mathematics process:

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

This course is a year-long course that meets for 60 minutes per day. The course uses a constructivist approach to investigate relationships in math. This approach will be balanced with a level of practice needed to attain skill mastery. Throughout the course, students will be actively engaged in problem solving through reasoning. Students will be expected to communicate their reasoning and problem solving on a daily basis though written and verbal formats.

In the end, the goal of this course is to develop young mathematicians with the habits of mind enabling them to meet the vision shared below; enabling their future success in mathematics.

The course content is arranged into four units of study:

- Unit 1: Place Value & Number Composition
- Unit 2: Addition & Subtraction
- Unit 3: Problem Solving with Addition & Subtraction
- Unit 4: Working Fractions, Geometry, Graphing, and Data

Math Vision

The Ewing Public Schools will deliver an instructional program in mathematics where students are actively engaged in the discovery of math concepts and are applying these concepts in ways that they find meaningful and relevant.

Ewing students will be mathematical thinkers who can reason, communicate and solve problems.

Ultimately, Ewing students will master and will be able to utilize these math concepts and skills throughout their lives.

21st Century Skills - During this course, students will work on developing, to an age appropriate level, the following 21st century skills:

Career Readiness Pathways:

- 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.
- CRP12. Work productively in teams while using cultural global competence.

Learning and Innovation Skills

Creativity and Innovation

Think Creatively

- Elaborate, refine, analyze and evaluate their own ideas in order to improve and maximize creative efforts

Work Creatively with Others

- View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

CRITICAL THINKING AND PROBLEM SOLVING

Reason Effectively

- Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation

Use Systems Thinking

- Analyze how parts of a whole interact with each other to produce overall outcomes in complex systems

Make Judgments and Decisions

- Effectively analyze and evaluate evidence, arguments, claims and beliefs
- Synthesize and make connections between information and arguments
- Interpret information and draw conclusions based on the best analysis

Solve Problems

- Identify and ask significant questions that clarify various points of view and lead to better solutions

COMMUNICATION AND COLLABORATION

Communicate Clearly

- Articulate thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts
- Listen effectively to decipher meaning, including knowledge, values, attitudes and intentions
- Use communication for a range of purposes (e.g. to inform, instruct, motivate and persuade)
- Utilize multiple media and technologies, and know how to judge their effectiveness a priori as well as assess their impact
- Communicate effectively in diverse environments (including multi-lingual)

Collaborate with Others

- Assume shared responsibility for collaborative work, and value the individual contributions made by each team member

Information, Media, and Technology Skills

Informational Literacy

Access and Evaluate Information

- Evaluate information critically and competently

Use and Manage Information

- Use information accurately and creatively for the issue or problem at hand

Life and Career Skills

Social and Cross-Cultural Skills

Interact Effectively with Others

- Know when it is appropriate to listen and when to speak

Work Effectively in Diverse Teams

- Respond open-mindedly to different ideas and values

Be Responsible to Others

- Act responsibly with the interests of the larger community in mind

Technology Integration

8.1 Educational Technology

All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and create and communicate knowledge.

ELA Integration:

NJSLS.RI.2.1. Ask and answer questions about key details in a text.
NJSLS.RI.2.2. Identify the main topic and retell key details of a text.
NJSLS.RI.2.4. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
NJSLS.RI.2.6. Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.
NJSLS.RI.2.7. Use the illustrations and details in a text to describe its key ideas.
NJSLS.SL.2.1. Participate in collaborative conversations with diverse partners about *grade 1 topics and texts* with peers and adults in small and larger groups.

A. Follow agreed-upon norms for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).
B. Build on others' talk in conversations by responding to the comments of others through multiple exchanges.
C. Ask questions to clear up any confusion about the topics and texts under discussion.

NJSLS.SL.2.2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
NJSLS.SL.2.5. Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.

Unit 1: Place Value and Number Composition [Pacing: 36 Days]

Why Is This Unit Important?

In this unit, students continue to develop ideas about quantity, the composition of numbers, including work with place value, and the structure of the base-ten number system. In this unit students will focus on building number sense through representing and comparing quantities, and through composing and decomposing numbers.

The big ideas embedded in this unit are:

- Our number system is structured around base ten.
- Equivalent numbers can be represented in a variety of ways
- Place value can be used to compare numbers

Enduring Understandings:

- Understand that our number system is based upon a base 10 system
- Understand that numbers can be represented in a variety of ways
- Understand represented in different ways can be equivalent
- Understand that numbers can be decomposed into their place value structure
- Understand that number quantities can be compared using their place value structure

Essential Questions:

- How many ones are in a ten? How many tens are in a hundred? How does this compare to our hundreds chart? How many hundreds are in a thousand?
- What others ways can you write this number?
- Are they equivalent? Why or shy not?
- What ways can you decompose this number?
- Which number is larger (or smaller)? How do you know?

Acquired Knowledge:

- Number sequence structure
- Place value structure
- Base ten structure
- Number comparison
- Decomposition
- Multiple ways to express a number

Acquired Skills:

- Locate numbers on a number line
- Use standard notation to describe number structure
- Use reasoning and place value to determine numbers
- Use strategies for counting accurately
- Generate equivalent expressions for a number
- Use base ten materials to determine place value
- Identify coins and their value
- Model and compare numbers using place value
- Model numbers using base ten materials
- Build largest and smallest possible numbers using 3 digits
- Compare 3 digit numbers
- Decompose numbers into equivalent tens and ones
- Compare numbers using place value
- Use place value to find equivalent numbers
- Read and write numbers using base 10, number names, and expanded form
- Use place value and expanded notation to copare numbers

Instructional Materials:

- Quarter 1 Math Module
- Investigations in Number, Data and Space for the Common Core Education, Pearson Education, Inc.
- Investigations in Number, Data and Space, Manipulatives Kit for Grade 2
- Investigations in Number, Data and Space, Cards Package for Grade 2
- Bills $1
- Coin Sets
- Color Number Cubes
- Color Tiles
- Counters
- Dice
- Hundreds Chart
- Number Line
- Snap cubes

Differentiation:

<u>Enrichments</u>:

- Race to a 1000
- Number Riddles
- Penny/Nickel/Dime/Dollar Exchange

Supplements:

- Make Ten
- Tens Go Fish
- Fast Ten Buddies
- Uncover Ten

Assessments:

Formative Assessments:

- Assessment Checklist for Number Representation Strategies
- Assessment Checklist for Number Comparison
- Teacher's observation of students at work; anecdotal records
- Individual conferences and group discussions
- Students' recording sheets

Summative Assessments:

- Teacher's observation of students at work
- Individual conferences
- End-of-Unit Assessment Workshop

Benchmarks

- Quarterly Mathematics Assessments

Alternative Assessments:

- Modified tasks and assessment rubrics

List of Applicable New Jersey State Standards for Mathematics Covered in This Unit:

- NJSLS.2.OA.A.2
- NJSLS.2.NBT.A.1
- NJSLS.2.NBT.A.2
- NJSLS.2.NBT.A.3
- NJSLS.2.NBT.A.4
- NJSLS.2.MD.A.2
- NJSLS.2.MD.C.8
- NJSLS.MP 1-8

Suggested Learning Experiences and Instructional Activities:

- Snap-it
- Number Lines
- Guess My Number
- I Spy a Number
- Today's Number
- Race to 50
- Race to 100
- Exploring Pennies
- Penny/Nickel Exchange
- Penny/Nickel/Dime Exchange
- Roll and Compare
- Roll and Compare – Hundreds Version
- Building Base Ten Numbers
- Secret Number
- Break It Up!
- Roll and Record
- Capture the Caterpillar
- More or Less
- Flip and Show
- Roll and Write
- Place Value Breakdown
- Race to the Finish Line
- Mya's Number

Technology:

- 3-Act Task: "The Whopper Jar" https://gfletchy.com/the-whopper-jar/
- Virtual Manipulatives and Games: http://nlvm.usu.edu/en/nav/topic_t_1.html
- Ten Frame games from NCTM: https://www.nctm.org/Classroom-Resources/Illuminations/Interactives/Ten-Frame/
- Number Values: https://www.abcya.com/games/comparing_number_values

Unit 2: Addition and Subtraction [Pacing: 45 Days]

Why Is This Unit Important?

In this unit, students continue to develop understanding and strategies involving addition and subtraction. This second unit allows students the opportunity to explore a wider range of addition and subtraction situations in which the unknown is in various locations. Students will work on developing strategies for understanding, describing, and representing the action and meaning of addition and subtraction.

The big ideas embedded in this unit are:

- Addition is a process for finding the total of separate parts that are being combined in "put together" or "add to" situations.
- Subtraction is a process for finding the difference between two values. This may be interpreted as the result when taking a portion of a starting quantity in a "take away" situation, or as the difference between two values in a "comparison" situation.
- Addition and subtraction are related operations.

Enduring Understandings:

- Understand the = symbol represents the idea that the value on one side of the symbol "means the same as" the value on the other side of the symbol
- Understand that "put together" and "add to" situations can be interpreted as addition
- Understand that "take from" situations can be interpreted as subtraction
- Understand that "compare" situations can be interpreted as subtraction
- Understand the relationship between addition and subtraction
- Understand that story problems describe a situation that can be visualized and represented with objects, drawings, words, numbers, and symbols
- Understand that operations have properties that one may generalize to any situation within that operation; the associative property of addition allows one to put addends together in any order without effecting the sum
- Understand the structure of place value tools such as a 100 chart and base ten materials
- Understand that a two-digit number may be decomposed into some tens and some ones and that the number of tens and ones determines a number's value
- Understand that numbers may be compared by thinking about place value

Essential Questions:

- How can we describe the action or meaning of this story problem?
- How can we represent the action or meaning of this story problem?
- How can we use what we know about the properties of addition and subtraction to help us understand and solve this problem?
- How can we use tools to represent what is happening?

Acquired Knowledge:

- Ordering addends
- Decompositions
- Number strings
- Commutative property of addition
- Subtraction ordering and its affect
- Relationship between addition and subtraction
- Equation structure
- How equations can represent scenarios
- Problem solving strategies

Acquired Skills:

- Use known combinations to add two or more numbers
- consider a generalization about ordering addends
- Use decomposition of numbers to 10 to subtract
- Use known number combinations to add number strings, relate doubles and near-doubles combinations
- Compare a number to 20 to find the difference
- Use Base 10 materials to model addition
- Consider whether reordering the numbers in a subtraction problem results in the same total
- Develop strategies for solving a variety of subtraction story problems
- Develop strategies for problem solving
- Relate addition and subtraction
- Visualize, retell and model addition and subtraction scenarios
- Solve problems with unknown change
- Develop strategies for solving a variety of addition and subtraction problems
- Tell stories to match given equations
- Visualize, retell and model the action of addition and subtraction with an unknown start
- Develop strategies for solving addition and subtraction problems with an unknown start, and recording work
- Use strategies to solve problems
- Write equations from scenarios
- Problem solve using the 100 chart
- Addition of two 2 digit numbers
- Addition of multiples of ten
- Addition of 3 or more 1 digit and 2 digit numbers
- Problem solving with up to 4 numbers
- Develop mental math strategies using up to 4 two-digit numbers, totaling 100
- Using the number line to solve problems

Instructional Materials:

- Quarter 2 Math Module
- Investigations in Number, Data and Space for the Common Core Education, Pearson Education, Inc.
- Investigations in Number, Data and Space, Manipulatives Kit for Grade 2
- Investigations in Number, Data and Space, Cards Package for Grade 2
- Base Ten manipulatives
- Bills $1
- Chart paper
- Coin Sets
- Communicators
- Connecting Cubesa
- Counters – 2 color
- Decahedron Dice
- Number Line
- Part-Whole Boards
- Primary Number Cards
- 6-Sided Die
- 10-Frames
- 100 Chart

Differentiation:

Enrichments:

- Number Riddles
- Close to 50
- Uncover 200

Supplements:

- Race to a 1000
- Number Riddles
- Penny/Nickel/Dime/Dollar Exchange

Assessments:

Formative Assessments:

- Assessment Checklist for Problem-Solving
- Assessment Checklist for Place Value Addition
- Assessment Checklist for Place Value Subtraction
- Teacher's observation of students at work; anecdotal records
- Individual conferences and group discussions
- Students' recording sheets

Summative Assessments:

- Teacher's observation of students at work
- Individual conferences
- Q2 Assessment

Benchmarks

- Quarterly Mathematics Assessment

Alternative Assessments:

- Modified tasks and assessment rubrics
- Performance-based assessment tasks

List of Applicable New Jersey State Standards for Mathematics Covered in This Unit:

- NJSLS.2.OA.A.1
- NJSLS.2.OA.B.2
- NJSLS.2.NBT.B.5
- NJSLS.2.NBT.B.6
- NJSLS.2.MD.B.6
- NJSLS.MP 1-8

Suggested Learning Experiences and Instructional Activities:

- I Say, You Say
- Hang 10
- What's Missing
- Close to 20
- Serial Number Math
- Putting it All Together
- Roll and Combine
- Today's Number

- Cover Up
- Spot the Difference
- Number Riddles
- Solve It!
- Show Me
- Flip and Add
- Basketball Addition
- Part-Whole
- Take 100

Technology:

- 3-Act Task: “Happy Birthday 2” https://learningfromchildren.org/3-act-tasks/happy-birthday-2/
- Virtual Manipulatives and Games: http://nlvm.usu.edu/en/nav/topic_t_1.html
- Adapted Mind: https://www.adaptedmind.com/Math-Worksheets.html?campaignId=770019790&gclid=EAIaIQobChMI_umY-Imu5gIVjlwMCh0bdwqpEAEYASAAEgJCtvD_BwE&utm_expid=._U3KtJOAR4GN9J5nwMhKtw.0&utm_referrer=https%3A%2F%2Fwww.funbrain.com%2F

Unit 3: Problem-Solving with Addition and Subtraction [Pacing: 45 Days]

Why Is This Unit Important?

In this unit, students extend their understanding and skill in addition and subtraction. They work towards operations with higher quatities and more complex scenarios.

The big ideas embedded in this unit are:

- Addition is a process for finding the total of separate parts that are being combined in “put together” or “add to” situations.
- Subtraction is a process for finding the difference between two values. This may be interpreted as the result when taking a portion of a starting quantity in a “take away” situation, or as the difference between two values in a “comparison” situation.
- Addition and subtraction are related operations.

Enduring Understandings:

- Understand the = symbol represents the idea that the value on one side of the symbol “means the same as” the value on the other side of the symbol
- Understand that “put together” and “add to” situations can be interpreted as addition
- Understand that “take from” situations can be interpreted as subtraction
- Understand that “compare” situations can be interpreted as subtraction
- Understand the relationship between addition and subtraction
- Understand that story problems describe a situation that can be visualized and represented with objects, drawings, words, numbers, and symbols
- Understand that operations have properties that one may generalize to any situation within that operation; the associative property of addition allows one to put addends together in any order without effecting the sum
- Understand the structure of place value tools such as a 100 chart and base ten materials
- Understand that a two-digit number may be decomposed into some tens and some ones and that the number of tens and ones determines a number’s value
- Understand that numbers may be compared by thinking about place value

Essential Questions:

- How can we describe the action or meaning of this story problem?
- How can we represent the action or meaning of this story problem?
- How can we use what we know about the properties of addition and subtraction to help us understand and solve this problem?
- How can we use tools to represent what is happening?

Acquired Knowledge:

- Ordering addends
- Decompositions
- Number strings
- Commutative property of addition
- Subtraction ordering and its affect
- Relationship between addition and subtraction
- Equation structure
- How equations can represent scenarios
- Problem solving strategies

Acquired Skills:

- Determine the value of a digit in any place value within 1000
- Use Base 10 materials to solve problems
- Use knowledge of place value to solve multi-digit addition problems
- Mentally add 10 or 100 to a given number 100-900
- Use Base 10 materials to subtract
- Use disk model to solve addition and subtraction problems
- Mentally subtract 10 or 100 from a given number 100-900
- Using the number line to solve problems
- Write and solve problems involving addition and subtraction

Instructional Materials:

- Quarter 3 Math Module
- Investigations in Number, Data and Space for the Common Core Education, Pearson Education, Inc.
- Investigations in Number, Data and Space, Manipulatives Kit for Grade 2
- Investigations in Number, Data and Space, Cards Package for Grade 2
- Base Ten manipulatives
- Bills $1
- Chart paper
- Coin Sets
- Communicators
- Connecting Cubesa
- Counters – 2 color
- Decahedron Dice
- Number Line
- Part-Whole Boards
- Primary Number Cards

- 6-Sided Die
- 10-Frames
- 100 Chart
- Two-color counters
- *Two of Everything* by Lily Toy Hong

Differentiation:

Enrichments:

- Problems modified:
  - Higher quantities
  - More steps
  - A greater number of exchanges required

Supplements:

- Number Riddles
- Close to 50
- Uncover 200

Assessments:

Formative Assessments:

- Assessment Checklist for Problem-Solving
- Assessment Checklist for Place Value Addition
- Assessment Checklist for Place Value Subtraction
- Teacher's observation of students at work; anecdotal records
- Individual conferences and group discussions
- Students' recording sheets

Summative Assessments:

- Teacher's observation of students at work
- Individual conferences
- Q3 Assessment

Benchmarks

- Quarterly Mathematics Assessment

Alternative Assessments:

- Modified tasks and assessment rubrics
- Performance-based assessment tasks

List of Applicable New Jersey State Standards for Mathematics Covered in This Unit:

- NJSLS.2.NBT.A.1b
- NJSLS.2.NBT.A.2
- NJSLS.2.NBT.B.5
- NJSLS.2.NBT.B.6
- NJSLS.2.NBT.B.7
- NJSLS.2.NBT.B.8
- NJSLS.2.NBT.B.9
- NJSLS.2.MD.B.5
- NJSLS.MP 1-8

Suggested Learning Experiences and Instructional Activities:

- Pie Eating Contest
- Trash Can
- Flip and Add
- Shake, Rattle, and Roll
- Perfect 1000
- Tic-Tac-Toe

Technology:

- Virtual Manipulatives and Games: http://nlvm.usu.edu/en/nav/topic_t_1.html
- Interactive Number Chart: http://www.abcya.com/interactive_100_number_chart.htm
- Math Lines Addition (select any number up to ten as the target number): http://www.abcya.com/math_lines_addition.htm

Unit 4: Fractions, Geometry, Graphing, and Data **[Pacing: 43 Days]**

Why Is This Unit Important?

In this unit, Students begin to explore the foundations of multiplication by representing repeated addition in a variety of ways. Students delve into the concept of fractions by partitioning circles and rectangles into two, three, or four equal shares and build foundational skills of describing equal shares with words and proper notation for writing fractions as numbers. Students work with shapes and solids to explore and use defining attributes. To conclude the unit, students explore measurement collecting and displaying data.

The big ideas embedded in this unit are:

- Multiplication is repeated addition.
- Objects may be partitioned into equal shares, and we describe these equal shares as fractions.
- Length is an attribute of an object that can be measured using multiple iterations of an object.
- Shapes are figures that take up space in two dimensions and solids are objects that take up space in three dimensions. Shapes and solids may be described, identified, and classified by their defining attributes.
- Graphical representations are tools to see data trends.

Enduring Understandings:

- Understand that circles and rectangles may be partitioned into equal shares, and those shares are described with specific words and written with specific notation
- Understand that a whole can be described as the total of its' fractional parts
- Understand that there is more than one way to partition a whole into halves, fourths, or thirds
- Understand that partitioning a whole into more equal shares results in those shares being of smaller size
- Understand that length is an attribute of an object that can be measured using multiple iterations of an object
- Understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps
- Understand that the size of the measuring unit will determine how many units are needed to measure the object's length; a smaller unit will result in more units needed, and larger units will require fewer units to measure the same object
- Understand that two-dimensional shapes and three-dimensional solids may be described, sorted, and classified by their attributes.
- Understand the difference between defining and non-defining attributes of shapes and solids.
- Understand that different graphical representations can show us different things

Essential Questions:

- What makes a number even?
- What makes a number odd?
- How can we describe and represent this whole and how it has been partitioned?

- How can we use objects to measure the length of an object?
- How can we describe the attributes of shapes and solids?
- How can we identify, sort, and classify shapes and solids by their attributes?
- What should we consider when choosing how to represent data?

Acquired Knowledge:

- Odd versus even quantities
- Ways to represent repeated addition
- 2-dimensional shapes and their attributes
- Equal partitioning
- Graphical representations

Acquired Skills:

- Determine if a number is odd or even and explain why it is odd or even.
- Distinguish odd and even numbers.
- Combine odd and even numbers.
- Solve problems about pairs, including those with multiple solutions.
- Explore arrays as rectangles.
- Create arrays and represent them using addition equations.
- Solve problems using arrays.
- Partition a rectangle into rows and columns and find the total by counting or using repeated addition.
- Identify names and attributes of 2-D shapes and a cube.
- Identify shapes and use them to construct other shapes.
- Understand that ½ is one of two equal parts.
- Identify and represent ½ using visual models.
- Determine whether a region is half of a given rectangle.
- Partition a square into fourths, use the term *one fourth,* and use the notation ¼.
- Recognize the equivalence of different fourths of the same object.
- Partition a rectangle into thirds, use the term *one third,* and use the notation 1/3.
- Identify halves, thirds, and fourths of a region.
- Identify halves, thirds, and fourths of a rectangle.
- Identify and name fractional parts that have numerators greater than 1.
- Identify halves, thirds, and fourths of a circle.
- Use measurement data to construct line plots.
- Use a bar graph to represent a data set and solve problems using data.
- Use a picture graph to represent a data set and solve problems using data.
- Represent data in a variety of formats.
- Solve problems using data.

Instructional Materials:

- Quarter 4 Math Module
- Investigations in Number, Data and Space for the Common Core Education, Pearson Education, Inc.
- Investigations in Number, Data and Space, Manipulatives Kit for Grade 2
- Investigations in Number, Data and Space, Cards Package for Grade 2
- Base Ten manipulatives
- Chart paper
- Communicators
- Connecting Cubes
- Counters – 2 color
- Decahedron Dice
- Digit Cards
- Geoblocks
- Pattern Blocks
- Rulers
- 6-Sided Die
- 100 Chart

Differentiation:

Enrichments:

- Fractioning beyond ¼
- Mystery Arrays
- Multiple Graphical Displays Projects

Supplements:

- Number Riddles
- Close to 50
- Uncover 200

Assessments:

Formative Assessments:

- Assessment Checklist for Fraction Partitioning
- Assessment Checklist for Shape identification
- Assessment Checklist for Graphical Data Representations
- Teacher's observation of students at work; anecdotal records
- Individual conferences and group discussions
- Students' recording sheets

Summative Assessments:

- Teacher's observation of students at work
- Individual conferences
- Q4 Assessments

Benchmarks

- Quarterly Mathematics Assessment

Alternative Assessments:

- Modified tasks and assessment rubrics
- Performance-based assessment tasks

List of Applicable New Jersey State Standards for Mathematics Covered in This Unit:

- NJSLS.2.OA.C.3
- NJSLS.2.OA.C.4
- NJSLS.2.NBT.A.1b
- NJSLS.2.NBT.A.2
- NJSLS.2.NBT.A.4
- NJSLS.2.NBT.B.5
- NJSLS.2.NBT.B.8
- NJSLS.2.MD.D.9
- NJSLS.2.MD.D.10
- NJSLS.2.G.A.1
- NJSLS.2.G.A.2
- NJSLS.2.G.A.3
- NJSLS.MP 1-8

Suggested Learning Experiences and Instructional Activities:

- Equal Addends?
- Even and Odd
- Build It
- Roll On Array
- Mystery Array
- Shape Robot
- Shape Bingo
- Fraction Flags
- Our Measurements
- Surveys

Technology:

- Virtual Manipulatives and Games: http://nlvm.usu.edu/en/nav/topic_t_1.html
- Interactive Number Chart: http://www.abcya.com/interactive_100_number_chart.htm
- Math Facts Basketball (select easy or medium, + or -): http://www.abcya.com/math_facts_game.htm

Sample Standards Integration

21st Century Skills & Career Readiness Practices

CRP4. Communicate clearly and effectively and with reason.

For example, in Unit 3 students will justify if they agree or disagree with the statement that 57 + 34 is the same as 50 + 30 + 10 + 1.

CRP6. Demonstrate creativity and innovation.

For example, in Unit 4 students will create shapes and solids by combining other shapes and solids and describe their creations.

CRP7. Employ valid and reliable research strategies.

For example, in Unit 4 students will select a question and gather data from the class; they will organize and represent the data and describe what they've learned about their classmates from the data set.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

For example, in Unit 3 students will work to solve and understand the connection between problems in which the result is unknown, the change is unknown, or the start is unknown.

CRP12. Work productively in teams while using cultural global competence.

For example, in Unit 4 students will work in small teams to design a survey question, gather data, and present the findings.

8.1 Educational Technology
All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and create and communicate knowledge.

For example, in Unit 4 students will access, manage, evaluate, and synthesize information to develop models for geometric shapes and their manipulation.

Interdisciplinary Connections

NJSLS.RI.2.1. Ask and answer questions about key details in a text.
NJSLS.RI.2.2. Identify the main topic and retell key details of a text.
NJSLS.RI.2.4. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.

NJSLS.RI.2.6. Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.
NJSLS.RI.2.7. Use the illustrations and details in a text to describe its key ideas.

These standards are met throughout the course. For example, in Unit 2 students will read stories to explore concepts of addition and subtraction.

NJSLS.SL.2.1. Participate in collaborative conversations with diverse partners about *grade 2 topics and texts* with peers and adults in small and larger groups.

A. Follow agreed-upon norms for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).
B. Build on others' talk in conversations by responding to the comments of others through multiple exchanges.
C. Ask questions to clear up any confusion about the topics and texts under discussion.

NJSLS.SL.2.2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
NJSLS.SL.2.5. Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.

These standards are met throughout the course. For example, in Units 1 and 2 students will discuss their solutions to a variety of story problems, listen to classmates' explanations, establish norms about math discussions, and work to develop conversation skills in responding to and building upon others' math ideas. In Units 3 and 4, students will ask and answer questions about information presented in various media, including videos about adding fractions and measurement.