



Totowa Public Schools

Mathematics

Grade 1

Aligned to NJSL Standards

BOE Adopted: 08/31/2022

Revised 12/14/2022

Units of Study & Pacing Guide

<u>Unit of Study</u>	<u>Timeline</u>	<u>Notes</u>
Unit 1: Add and Subtract within 20	6 Weeks	
Unit 2: Word Problems Involving Addition and Subtraction	10 Weeks	
Unit 3: Understand Place Value	8 Weeks	
Unit 4: Measurement and Shapes	6 Weeks	
Unit 5: Reasons with Shapes and Their Attributes	6 Weeks	

Title	Unit 1: Add and Subtract within 20
Unit Duration	6 Weeks
Unit Summary & Rationale	<i>In this unit, students will reinforce addition and subtraction skills. Students will also learn the commutative and associative properties when adding.</i>
Unit Goals	
Essential Questions	<ul style="list-style-type: none"> • What are addition and subtraction and how are they used? • How can addition and subtraction problems be solved? • How are addition and subtraction related?
Enduring Understandings	<ul style="list-style-type: none"> • Addition and subtraction are used to model real-world situations such as counting on from one day to another, determining an amount needed to earn a reward. • Use number lines, number grids, touch math, tens and ones, counters as well as other manipulatives to solve addition and subtraction problems. • Addition and subtraction are opposite numerical operations that are used to help to quickly find answers to equations.
Learning Outcomes	<ul style="list-style-type: none"> • Be able to count numbers up to 100 orally as well as in a written format. • Be able to compose and decompose numbers to 20 using tens and ones. • Be able to add/ subtract numbers within 20. • Be able to solve addition and subtraction problems using unknown addends. • Be able to apply commutative and associative properties when adding.
Assessment Evidence	
Formative	Collaborative Activities, Homework, Daily Classwork, Discussion Independent Class Assignment, Informal Observations of Students, Digital Personal Math Trainer, Games, Exit Slips, Questioning, Teacher Made Pages, Learning Centers, LinkIt, Problem of the Day

Summative	LinkIt Benchmark Assessments, Tests, Mid-Chapter Checkpoint Assessments
Alternative and Benchmark	LinkIt Benchmark Assessments, Totowa TPA Alternative – Reteaching, One on One Conferencing, Learning Centers, Levels Homework, Higher Order Thinking Problems, Additional leveled practice Formative, Summative, Alternative and Benchmark Assessments
Resources to Promote Learning	
Resources & Equipment Needed	Smartboard, Computers, iPads, websites and digital interactives/models, Multi-media presentations, video streaming, Brain Pop, Microsoft 365, Primary and Secondary Source Documents, Go Math! Resources, Assorted Manipulatives. Approved Class Resource List
Content & Interdisciplinary Standards	
NJ 2020 SLS: Mathematics	
NJSLS	Activity
1.NBT.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.	<ul style="list-style-type: none"> • Fill in a number line with missing numbers ranging in numbers. Use counters as counting representation. Match numbers to the number name.
1.OA.5. Relate counting to addition and subtraction	<ul style="list-style-type: none"> • Adding and subtracting numbers, solving word problems, using counters.
1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: 1.NBT.2a 10 can be thought of as a grouping of ten ones—called a “ten.” 1.NBT.2b The numbers from 11 to 19 are composed of a ten and one, two,	<ul style="list-style-type: none"> • Write the number of tens and ones. Draw tens and ones for each number. Use manipulatives (tens and ones blocks) to show a representation of each number.

three, four, five, six, seven, eight, or nine ones.	
1.OA.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).	<ul style="list-style-type: none"> • Solve word problems using counters and other manipulatives to make a 10 as well as decomposing a ten.
1.OA.3 Apply properties of operations as strategies to add and subtract.	<ul style="list-style-type: none"> • Roll two dice and write down a number sentence related to the dice. Then turn around the number sentence to create a turn around fact.
1.OA.4 Understand subtraction as an unknown-addend problems.	<ul style="list-style-type: none"> • Use counters to count on to fill in the missing number. If the equation is $10 - \underline{\quad} = 8$. Use counters to count from 8 to 10 to find the missing addend.
Mathematical Practices	
<ul style="list-style-type: none"> • MP.1. Make sense of problems and persevere in solving them. • MP.2. Reason abstractly and quantitatively. • MP.3. Construct viable arguments and critique the reasoning of others. • MP.4. Model with mathematics. • MP.5. Use appropriate tools strategically. • MP.6. Attend to precision. • MP.7. Look for and make use of structure. • MP.8. Look for and express regularity in repeated reasoning. 	

NJ: 2016 SLS: English Language Arts

- W.1.1. Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.
- RI.1.1. Ask and answer questions about key details in a text.
- SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
- L.1.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

2020 SLS: Computer Science & Design Thinking

NJSLS Performance Expectations (By the end of 2nd Grade)

- 8.2.2.ITH.3: Identify how technology impacts or improves life.
- 8.1.2.DA.3: Identify and describe patterns in data visualizations.

2020 SLS: Career Readiness, Life Literacies, and Key Skills

NJSLS Performance Expectations (By the end of 2nd Grade)

- 9.4.2.TL.2: Create a document using a word processing application.
- 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
- 9.4.2.TL.6: Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.).

Interdisciplinary/21st Century Connections

21st Century Connections

- Creativity and Innovation
- Critical thinking
- Collaboration and Teamwork
- Problem Solving

Title	World Problems Involving Addition and Subtraction
Unit Duration	10 Weeks
Unit Summary & Rationale	<i>Students are introduced to word problems using addition and subtraction within 20 (addition word problems with 3 numbers) and symbols for unknowns in equations – another benchmarked standard. In addition the students will be exposed and will learn to determine if an equation is true/ false and read, write and count to 120 starting from any number (a benchmarked standard).</i>
Unit Goals	
Essential Questions	<ul style="list-style-type: none"> • How can addition and subtraction problems be modeled and solved? • How can addition and subtraction sentences be written? • How do you use addition and subtraction to solve real world word problems?
Enduring Understandings	<ul style="list-style-type: none"> • Addition and subtraction problems are solved by counting on (adding) or counting back (subtracting) using counters, number lines, number grids, base ten blocks, etc. • Addition and subtraction sentences are written using + and =. They are written horizontal and vertical. • Identifying key words and phrases in a word problem helps to find the operation to solve the problem (e.g. How many are left? – Subtraction; How many altogether? - addition).
Learning Outcomes	<ul style="list-style-type: none"> • Be able to use addition and subtraction within 20 to solve word problems. • Be able to solve word problems using 3 whole numbers. • Be able to determine if an equation is true or false. • Be able to read, write, and count to 120.

- Be able to solve an addition or subtraction equation with a missing whole number.

Assessment Evidence	
Formative	Collaborative Activities, Homework, Daily Classwork, Discussion Independent Class Assignment, Informal Observations of Students, Digital Personal Math Trainer, Games, Exit Slips, Questioning, Teacher Made Pages, Learning Centers, LinkIt, Problem of the Day
Summative	LinkIt Benchmark Assessments, Tests, Mid-Chapter Checkpoint Assessments
Alternative and Benchmark	LinkIt Benchmark Assessments, Totowa TPA Alternative – Reteaching, One on One Conferencing, Learning Centers, Levels Homework, Higher Order Thinking Problems, Additional leveled practice Formative, Summative, Alternative and Benchmark Assessments
Resources to Promote Learning	
Resources & Equipment Needed	Smartboard, Computers, iPads, websites and digital interactives/models, Multi-media presentations, video streaming, Brain Pop, Microsoft 365, Primary and Secondary Source Documents, Go Math! Resources, Assorted Manipulatives. Approved Class Resource List
Content & Interdisciplinary Standards	
NJ 2020 SLS: Mathematics	
NJSLS	Activity
1.OA.1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.	<ul style="list-style-type: none"> • Use counters, base-ten blocks, number lines, number grids, and other manipulatives to solve word problems, use pictures that are given and draw pictures to help solve word problems using 2 and 3 whole numbers, use real world experiences to create and solve word problems (e.g., if you had 3 cookies and eat 1 how many are left?)

1.OA.2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20.	<ul style="list-style-type: none"> • Use counters, base-ten blocks, number lines, number grids, and other manipulatives to solve word problems, use pictures that are given and draw pictures to help solve word problems using 2 and 3 whole numbers, use real world experiences to create and solve word problems (e.g., if you had 3 cookies and eat 1 how many are left?)
1.OA.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.	<ul style="list-style-type: none"> • Use flash cards with number sentences and solve the number sentences to see if the equation is true or false (e.g. $3 + 5 = 9$ would be false).
1.OA.8 Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers.	<ul style="list-style-type: none"> • Use reverse addition/ subtraction to solve an equation where the number is missing (e.g. to solve $3 + \underline{\quad} = 8$ you would do $8 - 3 = 5$).
1.NBT.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.	<ul style="list-style-type: none"> • Fill in a blank number grid, fill in a number grid/ number line with some given numbers, count orally by playing popcorn (start at a given number and count on until someone says popcorn). • Match the number word to the actual number, draw a representation to match any given number up to 120.

Mathematical Practices

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

- W.1.1. Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.
- RI.1.1. Ask and answer questions about key details in a text.
- SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
- L.1.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

2020 SLS: Computer Science & Design Thinking

NJSLS Performance Expectations (By the end of 2nd Grade)

- 8.2.2.ITH.3: Identify how technology impacts or improves life.
- 8.1.2.DA.3: Identify and describe patterns in data visualizations.

2020 SLS: Career Readiness, Life Literacies, and Key Skills

NJSLS Performance Expectations (By the end of 2nd Grade)

- 9.4.2.TL.2: Create a document using a word processing application.
- 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
- 9.4.2.TL.6: Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.).

Interdisciplinary/21st Century Connections

21st Century Connections

- Creativity and Innovation
- Critical thinking
- Collaboration and Teamwork
- Problem Solving

Title	Understand Place Value
Unit Duration	6 Weeks

Unit Summary & Rationale	<p><i>Unit 3 has 1 benchmarked standard – Add within 100 using 2 –digit numbers, 1-digit numbers, and multiples of 10. In addition the students will be exposed and will learn to:</i></p> <ul style="list-style-type: none"> • <i>Compare 2-digit numbers using $<$, $>$, and $=$.</i> • <i>Mentally find ten more and ten less without counting with explanation of process/ logic used.</i> • <i>Subtract multiples of ten from multiples of ten with explanation of process/ logic used.</i> • <i>Understand that the 2-digits of a 2-digit number represents amounts of tens and ones.</i>
Unit Goals	
Essential Questions	<ul style="list-style-type: none"> • Why not always count by 1? • How does a number hold its place? • How big is 100?
Enduring Understandings	<ul style="list-style-type: none"> • Skip counting by 2, 5, and 10 assists students in counting quickly. It also assists students to make sense of real world situations. • A number holds its place using digits representing certain value (e.g. base ten blocks, ten frame). • Representations of 100 are made using counters, base ten blocks, ten frames, pictures.
Learning Outcomes	<ul style="list-style-type: none"> • Be able to compare 2-digit numbers. • Be able to add 2-digit numbers using multiples of 10. • Be able to decompose 2-digit numbers into tens and ones. • Be able to mentally count by ten from any number up to 120. • Be able to subtract multiples of ten from multiples of ten.
Assessment Evidence	
Formative	<p>Collaborative Activities, Homework, Daily Classwork, Discussion Independent Class Assignment, Informal Observations of Students, Digital Personal Math Trainer, Games, Exit Slips, Questioning, Teacher Made Pages, Learning Centers, LinkIt, Problem of the Day</p>

Summative	LinkIt Benchmark Assessments, Tests, Mid-Chapter Checkpoint Assessments
Alternative and Benchmark	LinkIt Benchmark Assessments, Totowa TPA Formative, Summative, Alternative and Benchmark Assessments
Resources to Promote Learning	
Resources & Equipment Needed	Smartboard, Computers, iPads, websites and digital interactives/models, Multi-media presentations, video streaming, Brain Pop, Microsoft 365, Primary and Secondary Source Documents, Go Math! Resources, Assorted Manipulatives. Approved Class Resource List
Content & Interdisciplinary Standards	
NJ 2020 SLS: Mathematics	
NJSLS	Activity
1.NBT.2c The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).	<ul style="list-style-type: none"> Use 2-digit numbers to make groups of ten using base ten blocks.
1.NBT.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the relational symbols $>$, $<$, $=$, and \neq .	<ul style="list-style-type: none"> Use popsicle sticks to make the $<$, $>$, and $=$ to put in between two 2-digit numbers, use number cards to compare the numbers using $<$, $>$, and $=$.
1.NBT.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models (e.g., base ten blocks) or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the	<ul style="list-style-type: none"> Use base ten blocks and a hundreds chart to add a 2-digit/ 1-digit numbers using multiples of ten to help solve faster (e.g. $34 + 23 = ?$ – use multiples of ten $30 + 20$ to get 50 and then add $4 + 3$ to get $7 = 57$).

<p>strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.</p>	
<p>1.NBT.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.</p>	<ul style="list-style-type: none"> • Hold up a number card with any number up to 120 and have students count on or back from that number by 10 (e.g. number card 37 students would count on by 10 – 47, 57, 67, 77, etc.)
<p>1.NBT.6 Subtract multiples of 10 in the range 10 to 90 from multiples of 10 in the range 10 to 90 (positive or zero differences), 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 and explain the reasoning used.</p>	<ul style="list-style-type: none"> • Use number cards (multiples of 10 – e.g. 10, 20, 30, etc.) to add/ subtract (e.g. $80 - 70 = 10$ – relate to $8 - 7 = 1$)
<p>Mathematical Practices</p>	
<ul style="list-style-type: none"> • MP.1. Make sense of problems and persevere in solving them. • MP.2. Reason abstractly and quantitatively. • MP.3. Construct viable arguments and critique the reasoning of others. • MP.4. Model with mathematics. • MP.5. Use appropriate tools strategically. • MP.6. Attend to precision. • MP.7. Look for and make use of structure. • MP.8. Look for and express regularity in repeated reasoning. 	
<p>NJ: 2016 SLS: English Language Arts</p>	

- W.1.1. Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.
- RI.1.1. Ask and answer questions about key details in a text.
- SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
- L.1.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- NJSLSA.L4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
- NJSLSA.L5. Demonstrate understanding of word relationships and nuances in word meanings.
- NJSLSA.L6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

2020 SLS: Computer Science & Design Thinking

NJSLS Performance Expectations (By the end of 2nd Grade)

- 8.2.2.ITH.3: Identify how technology impacts or improves life.
- 8.1.2.DA.3: Identify and describe patterns in data visualizations.

2020 SLS: Career Readiness, Life Literacies, and Key Skills

NJSLS Performance Expectations (By the end of 2nd Grade)

- 9.4.2.TL.2: Create a document using a word processing application.
- 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
- 9.4.2.TL.6: Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.).

Interdisciplinary/21st Century Connections

21st Century Connections

- Creativity and Innovation
- Critical thinking
- Collaboration and Teamwork
- Problem Solving

Title	Measurements and Shapes
Unit Duration	6 Weeks
Unit Summary & Rationale	<p><i>Unit 4 has 3 benchmarked standards that have been introduced in previous units that students will continue to review (Use addition and subtraction within 20 to solve word problems, add or subtract numbers within 20, and read and write numbers to 120).</i></p> <p><i>In addition the students will be exposed and will learn to:</i></p> <ul style="list-style-type: none"> • <i>Order 3 objects by length.</i> • <i>Use an everyday object to measure another object.</i> • <i>Tell/ write time to the hour and half-hour.</i> • <i>Draw and build shapes using attributes.</i> • <i>Name attributes to describe shapes.</i>
Unit Goals	
Essential Questions	<ul style="list-style-type: none"> • What are shapes and where are they found? • Why do we measure objects? • What strategies will students use to compare measurements?
Enduring Understandings	<ul style="list-style-type: none"> • Two-dimensional shapes are objects such as quadrilaterals, triangles, circles, and polygons that are found in our physical world. • Measurement helps us to understand and describe the world such as how tall someone is, describing how heavy something is, or how much something holds. • Standard and nonstandard units will be used to compare and order lengths.
Learning Outcomes	<p>Students will...</p> <ul style="list-style-type: none"> • be able to tell time to the hour and half hour. • be able to draw/ build shapes. • be able to name the attributes of 2-dimensional shapes. • be able to add and subtract whole numbers within 20. • be able to read, write, and count numbers up to 120.

- be able to solve word problems using addition and subtraction within 20.
- be able to order 3 objects by length.
- be able to measure an object by using another object

Assessment Evidence	
Formative	Collaborative Activities, Homework, Daily Classwork, Discussion Independent Class Assignment, Informal Observations of Students, Digital Personal Math Trainer, Games, Exit Slips, Questioning, Teacher Made Pages, Learning Centers, LinkIt, Problem of the Day
Summative	LinkIt Benchmark Assessments, Tests, Mid-Chapter Checkpoint Assessments
Alternative and Benchmark	LinkIt Benchmark Assessments, Totowa TPA Alternative – Reteaching, One on One Conferencing, Learning Centers, Levels Homework, Higher Order Thinking Problems, Additional leveled practice Formative, Summative, Alternative and Benchmark Assessments
Resources to Promote Learning	
Resources & Equipment Needed	Smartboard, Computers, iPads, websites and digital interactives/models, Multi-media presentations, video streaming, Brain Pop, Microsoft 365, Primary and Secondary Source Documents, Go Math! Resources, Assorted Manipulatives. Approved Class Resource List
Content & Interdisciplinary Standards	
NJ 2020 SLS: Mathematics	
NJSLS	Activity
1.MD.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object.	<ul style="list-style-type: none"> • Take everyday objects and place them in order by length (e.g. a bag with a pencil, eraser, and a glue stick – students will place them in order and be able to reason/ explanation why they are in the particular order).
1.MD.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter	<ul style="list-style-type: none"> • Use an everyday object to measure another object (e.g. How many erasers fit alongside a pencil?).

<p>object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.</p>	
<p>1.MD.3 Tell and write time in hours and half-hours using analog and digital clocks.</p>	<ul style="list-style-type: none"> • Use clocks to tell time.
<p>1.G.1 Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.</p>	<ul style="list-style-type: none"> • Use pattern blocks to name attributes (e.g. use a square to write down attributes of a square – students will hold the square and note that there are 4 sides and corners, each side is equal, etc.) • Use the pattern block template to draw a shape that has certain attribute (e.g. draw a shape that has 4 sides)
<p>1.OA.1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.</p>	<ul style="list-style-type: none"> • Use manipulatives and picture representations to solve word problems using addition and subtraction.
<p>1.OA.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and</p>	<ul style="list-style-type: none"> • Use flash cards, play math master, or timed-test.

<p>creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).</p>	
<p>1.NBT.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.</p>	<ul style="list-style-type: none"> • Memory game using numbers to 120 – orally read numbers and match the written numbers to the numeral.
<p>Mathematical Practices</p>	
<ul style="list-style-type: none"> • MP.1. Make sense of problems and persevere in solving them. • MP.2. Reason abstractly and quantitatively. • MP.3. Construct viable arguments and critique the reasoning of others. • MP.4. Model with mathematics. • MP.5. Use appropriate tools strategically. • MP.6. Attend to precision. • MP.7. Look for and make use of structure. • MP.8. Look for and express regularity in repeated reasoning. 	
<p>NJ: 2016 SLS: English Language Arts</p>	
<ul style="list-style-type: none"> • W.1.1. Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure. • RI.1.1. Ask and answer questions about key details in a text. • SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. • L.1.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. 	
<p>2020 SLS: Computer Science & Design Thinking</p>	
<p>NJSLS Performance Expectations (By the end of 2nd Grade)</p>	

- 8.2.2.ITH.3: Identify how technology impacts or improves life.
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2020 SLS: Career Readiness, Life Literacies, and Key Skills

NJSLS Performance Expectations (By the end of 2nd Grade)

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Interdisciplinary/21st Century Connections

21st Century Connections

- Critical thinking
- Collaboration and Teamwork
- Problem Solving

Title	Reasons with Shapes and Their Attributes
Unit Duration	6 Weeks
Unit Summary & Rationale	<p><i>Unit 5 has 3 benchmarked standards that have been introduced in previous units that students will continue to review (add within 100, use addition and subtraction within 20 to solve word problems, and add/ subtract numbers within 10 fluently).</i></p> <p><i>In addition the students will be exposed and will learn to:</i></p> <ul style="list-style-type: none"> • <i>Compose 2 and 3 dimensional shapes.</i> • <i>Partition shapes into 2 or 4 shares.</i> • <i>Organize, interpret, and represent data using up to 3 – 5 categories.</i>
Unit Goals	
Essential Questions	<ul style="list-style-type: none"> • What are shapes and where are they found? • Why do we measure objects?

	<ul style="list-style-type: none"> • What strategies will students use to compare measurements?
Enduring Understandings	<ul style="list-style-type: none"> • Two-dimensional shapes are objects such as quadrilaterals, triangles, circles, and polygons that are found in our physical world. • Measurement helps us to understand and describe the world such as how tall someone is, describing how heavy something is, or how much something holds. • Standard and nonstandard units will be used to compare and order lengths.
Learning Outcomes	<ul style="list-style-type: none"> • Be able to tell time to the hour and half hour. • Be able to draw/ build shapes. • Be able to name the attributes of 2-dimensional shapes. • Be able to add and subtract whole numbers within 20. • Be able to read, write, and count numbers up to 120. • Be able to solve word problems using addition and subtraction within 20. • Be able to order 3 objects by length. • Be able to measure an object by using another object.

Assessment Evidence	
Formative	Collaborative Activities, Homework, Daily Classwork, Discussion Independent Class Assignment, Informal Observations of Students, Digital Personal Math Trainer, Games, Exit Slips, Questioning, Teacher Made Pages, Learning Centers, LinkIt, Problem of the Day
Summative	LinkIt Benchmark Assessments, Tests, Mid-Chapter Checkpoint Assessments
Alternative and Benchmark	<p>LinkIt Benchmark Assessments, Totowa TPA</p> <p>Alternative – Reteaching, One on One Conferencing, Learning Centers, Levels Homework, Higher Order Thinking Problems, Additional leveled practice</p> <p>Formative, Summative, Alternative and Benchmark Assessments</p>
Resources to Promote Learning	

Resources & Equipment Needed	Smartboard, Computers, iPads, websites and digital interactives/models, Multi-media presentations, video streaming, Brain Pop, Microsoft 365, Primary and Secondary Source Documents, Go Math! Resources, Assorted Manipulatives. Approved Class Resource List
Content & Interdisciplinary Standards	
NJ 2020 SLS: Mathematics	
NJSLS	Activity
1.NBT.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.	<ul style="list-style-type: none"> • Fill in a number line with missing numbers ranging in numbers. Use counters as counting representation. Match numbers to the number name.
1.OA.5. Relate counting to addition and subtraction	<ul style="list-style-type: none"> • Adding and subtracting numbers, solving word problems, using counters.
1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: 1.NBT.2a 10 can be thought of as a grouping of ten ones—called a “ten.” 1.NBT.2b The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.	<ul style="list-style-type: none"> • Write the number of tens and ones. Draw tens and ones for each number. Use manipulatives (tens and ones blocks) to show a representation of each number.
1.OA.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$);	<ul style="list-style-type: none"> • Solve word problems using counters and other manipulatives to make a 10 as well as decomposing a ten.

<p>using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).</p>	
<p>1.OA.3 Apply properties of operations as strategies to add and subtract.</p>	<ul style="list-style-type: none"> • Roll two dice and write down a number sentence related to the dice. Then turn around the number sentence to create a turn around fact.
<p>1.OA.4 Understand subtraction as an unknown-addend problems.</p>	<ul style="list-style-type: none"> • Use counters to count on to fill in the missing number. If the equation is $10 - \underline{\quad} = 8$. Use counters to count from 8 to 10 to find the missing addend.
<p>Mathematical Practices</p>	
<ul style="list-style-type: none"> • MP.1. Make sense of problems and persevere in solving them. • MP.2. Reason abstractly and quantitatively. • MP.3. Construct viable arguments and critique the reasoning of others. • MP.4. Model with mathematics. • MP.5. Use appropriate tools strategically. • MP.6. Attend to precision. • MP.7. Look for and make use of structure. • MP.8. Look for and express regularity in repeated reasoning. 	
<p>NJ: 2016 SLS: English Language Arts</p>	
<ul style="list-style-type: none"> • W.1.1. Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure. • RI.1.1. Ask and answer questions about key details in a text. • SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. • L.1.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. 	

- NJSLSA.L4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
- NJSLSA.L5. Demonstrate understanding of word relationships and nuances in word meanings.
- NJSLSA.L6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

2020 SLS: Computer Science & Design Thinking

NJSLS Performance Expectations (By the end of 2nd Grade)

- 8.2.2.ITH.3: Identify how technology impacts or improves life.
- 8.1.2.DA.3: Identify and describe patterns in data visualizations.

2020 SLS: Career Readiness, Life Literacies, and Key Skills

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- 9.4.2.TL.2: Create a document using a word processing application.
- 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
- 9.4.2.TL.6: Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.).

Interdisciplinary/21st Century Connections

21st Century Connections

- Creativity and Innovation
- Critical thinking
- Collaboration and Teamwork
- Problem Solving

Title	Unit 1: Reasons with Shapes and Their Attributes
Unit Duration	8 Weeks
Unit Summary & Rationale	<i>Unit 5 has 3 benchmarked standards that have been introduced in previous units that students will continue to review (add within 100, use addition and subtraction within 20 to solve word problems, and add/ subtract numbers within 10 fluently).</i>

	<p><i>In addition the students will be exposed and will learn to:</i></p> <ul style="list-style-type: none"> • <i>Compose 2 and 3 dimensional shapes.</i> • <i>Partition shapes into 2 or 4 shares.</i> • <i>Organize, interpret, and represent data using up to 3 – 5 categories.</i>
Unit Goals	
Essential Questions	<ul style="list-style-type: none"> • What are addition and subtraction and how are they used? • How can addition and subtraction problems be solved? • How are addition and subtraction related?
Enduring Understandings	<ul style="list-style-type: none"> • Addition and subtraction are used to model real-world situations such as counting on from one day to another, determining an amount needed to earn a reward. • Use number lines, number grids, touch math, tens and ones, counters as well as other manipulatives to solve addition and subtraction problems. • Addition and subtraction are opposite numerical operations that are used to help to quickly find answers to equations.
Learning Outcomes	<ul style="list-style-type: none"> • Be able to count numbers up to 100 orally as well as in a written format. • Be able to compose and decompose numbers to 20 using tens and ones. • Be able to add/ subtract numbers within 20. • Be able to solve addition and subtraction problems using unknown addends. • Be able to apply commutative and associative properties when adding.
Assessment Evidence	
Formative	Collaborative Activities, Homework, Daily Classwork, Discussion Independent Class Assignment, Informal Observations of Students, Digital Personal Math Trainer, Games, Exit Slips, Questioning, Teacher Made Pages, Learning Centers, LinkIt, Problem of the Day
Summative	LinkIt Benchmark Assessments, Tests, Mid-Chapter Checkpoint Assessments
Alternative and Benchmark	LinkIt Benchmark Assessments, Totowa TPA

	Alternative – Reteaching, One on One Conferencing, Learning Centers, Levels Homework, Higher Order Thinking Problems, Additional leveled practice Formative, Summative, Alternative and Benchmark Assessments
Resources to Promote Learning	
Resources & Equipment Needed	Smartboard, Computers, iPads, websites and digital interactives/models, Multi-media presentations, video streaming, Brain Pop, Microsoft 365, Primary and Secondary Source Documents, Go Math! Resources, Assorted Manipulatives. Approved Class Resource List
Content & Interdisciplinary Standards	
NJ 2020 SLS: Mathematics	
NJSLS	Activity
1.G.2 Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.	<ul style="list-style-type: none"> • Use pattern blocks to put them together to create new shapes, use pattern blocks to see how many of one fit into another (e.g. how many triangles fit into a square?)
1.G.3 Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.	<ul style="list-style-type: none"> • Use a straightedge to partition a shape into equal shares. Use a crayon to color some of the shares and then write a fraction to match (e.g. Partition a circle into 2 equal shares and color one of the equal shares. Students would write $\frac{1}{2}$ to match the picture). • Respond to an open-ended question about explaining how to partition a shape into equal shares.

<p>1.NBT.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models (e.g., base ten blocks) 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 and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.</p>	<ul style="list-style-type: none"> • Use place value to add 2 and 1 digit numbers and answer an open-ended question writing an explanation of the strategy used.
<p>1.OA.1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.</p>	<ul style="list-style-type: none"> • Draw a picture or representation to help solve the word problem (cross out if subtraction or draw more if addition), write a written response to a word problem along with a number sentence.
<p>1.OA.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the</p>	<ul style="list-style-type: none"> • Play math master (using flash cards) to gain fluency with adding/ subtracting within 10. Use base ten blocks and counters to add/ subtract.

known equivalent $6 + 6 + 1 = 12 + 1 = 13$)	
1.MD.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.	<ul style="list-style-type: none"> • Use everyday data, such as favorite pet, to create a chart. Answer questions orally and in written format about the chart/ data (e.g., comparing data).
Mathematical Practices	
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Interdisciplinary/21st Century Connections

Visual and Performing Art

- 1.5.2.Cr2c: Create art that represents natural and constructed environments. Identify and classify uses of everyday objects through drawings, diagrams, sculptures or other visual means including repurposing objects to make something new.

21st Century Connections

- Creativity and Innovation
- Critical thinking
- Collaboration and Teamwork
- Problem Solving

Accommodations & Modifications

Special Education Students, 504 students, English Language Learners, Students at-Risk Based on Students' Individual Needs

<p style="text-align: center;">Time/General</p> <ul style="list-style-type: none"> • Allow extra time • Repeat and clarify directions • Provide breaks in between tasks • Have student verbalize directions • Provide timelines/due dates for reports and projects 	<p style="text-align: center;">Processing</p> <ul style="list-style-type: none"> • Provide extra response time • Have student verbalize steps • Repeat directions • Provide small group instruction • Include partner work 	<p style="text-align: center;">Comprehension</p> <ul style="list-style-type: none"> • Provide reading material on student's level • Have student underline important points • Assist student on how to use context clues to identify words/phrases • Ensure short manageable tasks
<p style="text-align: center;">Tests/Quizzes/Grading</p> <ul style="list-style-type: none"> • Provide extended time • Provide study guides • Limit number of responses 	<p style="text-align: center;">Behavior/Attention</p> <ul style="list-style-type: none"> • Establish classroom rules • Write a contract with the student specifying expected behaviors • Provide preferential seating • Re-focus student as needed • Reinforce student for staying on task 	<p style="text-align: center;">Organization</p> <ul style="list-style-type: none"> • Monitor the student and provide reinforcement of directions • Verify the accurateness of homework assignments • Display a written agenda

ELL, Enrichment, Gifted & Talented Strategies

Accommodations Based on Students' Individual Needs

ELL Strategies

- Provide explicit, systematic instruction in vocabulary.
- Ensure that ELLs have ample opportunities to talk with both adults and peers and provide ongoing feedback and encouragement.
- Expose ELLs to rich language input.
- Scaffolding for ELLs language learning.

- Encourage continued L1 language development.
- Alphabet knowledge
- Phonological awareness
- Print awareness
- Design instruction that focuses on all of the foundational literacy skills.
- Recognize that many literacy skills can transfer across languages.
- English literacy development by helping ELLs make the connection between what they know in their first language and what they need to know in English.
- Graphic organizers
- Modified texts
- Modified assessments
- Written/audio instruction
- Shorter paragraph/essay length
- Homogeneously grouped by level

Accommodations Based on Students' Individual Needs:

Enrichment Strategies

- Evaluate vocabulary
- Elevate Text Complexity
- Incorporate inquiry based assignments and projects
- Extend curriculum
- Balance individual, small group and whole group instruction
- Provide tiered/multi-level activities
- Include purposeful learning centers
- Provide open-ended activities and projects
- Offer opportunities for heterogeneous grouping to work with age and social peers as well as homogeneous grouping to provide time to work with individual peers
- Provide pupils with experiences outside the 'regular' curriculum

- Alter the pace the student uses to cover regular curriculum in order to explore topics of interest in greater depth/breadth within their own grade level
- Require a higher quality of work than the norm for the given age group
- Promote higher level of thinking and making connections.
- Focus on process learning skills such as brainstorming, decision making and social skills
- Use supplementary materials in addition to the normal range of resources.
- Encourage peer to peer mentoring
- Integrate cross-curricular lessons
- Incorporate real-world problem solving activities
- Facilitate student-led questioning and discussions

Gifted & Talented Strategies

- More elaborate, complex, and in-depth study of major ideas, problems, and themes that integrate knowledge within and across systems of thought.
- Development and application of productive thinking skills to enable students to reconceptualize existing knowledge and/or generate new knowledge.
- Explore constantly changing knowledge and information and develop the attitude that knowledge is worth pursuing in an open world.
- Encourage exposure to, selection, and use of appropriate and specialized resources.
- Promote self-initiated and self-directed learning and growth.
- Provide for the development of self-understanding and the understanding of one's relationship to persons, societal institutions, nature, and culture.
- Flexible pacing
- Use of more advanced or complex concepts, abstractions, and materials
- Encourage students to move through content areas at their own pace. If they master a particular unit, they need to be provided with more advanced learning activities, not more of the same activity.
- Questions that require a higher level of response and/or open-ended questions that stimulate inquiry, active exploration, and discovery.
- Encourage students to think about subjects in more abstract and complex ways

- Activity selection based on student interests, that encourage self-directed learning
- Group interaction and simulations
- Guided self-management
- Encourage students to demonstrate what they have learned in a wide variety of forms that reflect both knowledge and the ability to manipulate ideas.
- Engage students in active problem-finding and problem-solving activities and research.
- Provide students opportunities for making connections within and across systems of knowledge by focusing on issues, themes, and ideas.