

Madison Public Schools

Grade 1 Mathematics Curriculum

Written by:

Samantha Mullins and Karen Smith
Meghan Rinaldi and Tina Smith

Revised by:

Emily Perritt

Reviewed by:

Daniel J. Ross, Esq.
Asst. Superintendent

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Members of the Board of Education:

John Regan, President
Pam Yousey, Vice President
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Madison Public Schools
359 Woodland Road
Madison, NJ 07940
www.madisonpublicschools.org

Course Overview

Description

Grade 1 Mathematics is a full year course aligned to the first grade New Jersey Student Learning Standards. Instruction will focus on four critical areas: developing an understanding of addition and subtraction, developing an understanding of whole number relationships and place value, developing an understanding of linear measurement, and reasoning about shapes and their attributes. The Standards for Mathematical Practice are incorporated in each unit to ensure students are developing procedural fluency, problem solving skills, and productive dispositions towards Mathematics. A Singapore Approach to Mathematics will be implemented to allow students to cover material in depth. The Singapore Mathematics Framework focuses on skills, concepts, processes, metacognition, and student attitudes. Students will move through topics using a Concrete-Pictorial-Abstract (CPA) progression to develop conceptual understanding. Students will regularly complete hands-on explorations, participate in classroom discussions, and record their thinking in journals. Successful completion of this course will require students to not only acquire mathematical skills, but to also apply them in real world situations.

Goals

This course aims to:

- encourage students to become abstract thinkers who make sense of quantities and their relationships
- develop students' ability to communicate mathematical ideas precisely and effectively
- develop students' ability to cooperatively discuss and critique ideas of one another
- enable students to become strategic mathematical problem solvers and persevere in solving problems
- build student confidence and interest in Mathematics
- empower students to monitor their thinking and regulate their learning
- develop students' ability to use, apply, and model mathematics to solve problems arising in everyday life, society, and the workplace

Materials

Core: Math in Focus Textbook 1A and 1B (Teacher and Student Editions), ST Math

Supplemental: Extra Practice 1A & 1B, Enrichment 1A & 1B, Reteach 1A and 1B, Student workbook 1A & 1B, Unit assessments in unit plans, Freckle

Resources

The Unit plans contain formative assessment, number talks, exploration activities, journal entries, independent practice, and summative assessments.

Benchmark Assessments

Students will take the Star Mathematics assessment a minimum of 3 times during the school year.

Modifications and Adaptations for Special Needs Learners

(Gifted and Talented Students, English Language Learners, Special Education Students, At-Risk Students)

Scope and Sequence (Pacing Guide)

Unit Number	Topic of Study	Duration (Weeks Taught)
1	Place Value and Operations to 10	6
2	Shapes	4
3	Place Value and Operations to 20	5
4	Numbers to 40	2
5	Calendar and Time	2
6	Operations to 40	4
7	Length	2
8	Place Value and Operations to 120	4
9	Data	2

Unit 1 Overview	
Unit Title: Place Value and Operations to 10	
Unit Summary: This unit reviews and extends student learning from Kindergarten with a focus on numbers and operations to 10. Students will count the number of objects in a set and compare two sets using vocabulary such as fewer, less, greater, more, and same. Students will develop an understanding of adding on and taking away as they learn to write addition and subtraction sentences and build number bonds.	
Suggested Pacing: 27 days	
Learning Targets	
Unit Essential Questions: <ul style="list-style-type: none"> • What strategies are available to determine how much or how many we have? • How is counting related to addition and subtraction? • How can one find the total of parts? • How can one find the missing part of a whole? • What is the relationship between addition and subtraction? • How can properties of operations help to solve addition and subtraction problems? • How can one determine if an equation is true or false? • When the unknown number is found for an equation, how can one tell if it is correct? 	
Unit Enduring Understandings: <ul style="list-style-type: none"> • addition involves adding to and putting together • subtraction involves taking from, taking apart, and comparing • missing numbers in a math sentence can be found using addition and subtraction • objects, drawings, and equations can be used to solve problems • properties of operations are used as strategies for solving addition and subtraction problems • knowing how addition and subtraction are related helps us to solve math problems • there are multiple strategies to add and subtract • counting is related to addition and subtraction • how many or how much there is of something increases with addition and decreases with subtraction. • the equal sign represents two sides that are balanced and have equivalent expressions on each side • an equation is true if the representation on the left side of the equal sign is equivalent to the representation on the right side of the equal sign; otherwise it is false 	
Evidence of Learning	
Formative Assessment: Number Talks, Exploration Activities, Class Discussion, Journal Entries, Independent Practice	
Summative Unit Assessment: Chapter 1 and 2 unit assessments. This unit Assessment contains a variety of multiple choice, multiple select, and open ended questions that assess student understanding of the objectives and NJ Student Learning Standards listed below.	
Alternative Assessments: Students will have the opportunity to demonstrate their learning by completing chapter 1 and 2 Performance Tasks in student textbook/workbook.	

Objectives (Students will be able to...)	Key Concepts (Students will know...)	Suggested Assessments	Standards (NJSLs)
<p>Chapter 1: Numbers to 10</p> <p>Count, read, and write numbers 0-10</p> <p>Understand the value of and compare numbers 1-10</p> <p>Understand number patterns to 10</p>	<p>Count from 0 to 10 using objects</p> <p>Read and write 0 to 10 in numbers and words</p> <p>Recognize the concept of zero by counting back</p> <p>Compare two sets of objects by using 1:1 correspondence</p> <p>Identify the set that has more, fewer, or the same number of objects</p> <p>Identify the number that is greater than or less than another number</p> <p>Make number patterns; 1 more or 1 less; find the missing number</p> <p><i>Vocabulary:</i> same, as many as, more, fewer, more than, less than,</p>	<p>Pick two numbers between 1 and 10. Draw objects representing each number and write the number in word form. Write a sentence comparing the numbers using more than or less than.</p>	<p>1.NBT.A.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> <p>1.NBT.B.3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.</p> <p><i>Math Practices</i> SMP1 Make sense of problems and persevere in solving them. SMP2 Reason abstractly and quantitatively. SMP3 Construct viable arguments and critique the reasoning of others. SMP4 Model with mathematics. SMP5 Use appropriate tools strategically. SMP6 Attend to precision. SMP7 Look for and make use of structure. SMP8 Look for and express regularity in repeated reasoning.</p> <p><u>Interdisciplinary Connections:</u></p> <p>NJLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.</p>
<p>Chapter 2: Addition and Subtraction Within 10</p> <p>Utilize various strategies to add within 10</p> <p>Utilize various strategies to subtract within 10</p> <p>Solve real world addition and subtraction problems</p>	<p>Use connecting cubes to find number bonds</p> <p>Use a math balance to find number bonds</p> <p>Find different number bonds for numbers to 10</p> <p>Find different number bonds using 3 parts count on to add</p> <p>Use number bonds to add in any order</p> <p>Write and solve addition sentences</p> <p>Add by counting on</p> <p>Tell addition stories about pictures</p> <p>Write and solve addition sentences related to addition stories; real-world problems</p>	<p>Draw a picture to tell an addition story with numbers up to 10. Write the matching number sentence to match.</p> <p>Draw a picture to tell a subtraction story with numbers up to 10. Write the matching number sentence to match.</p>	<p>1.OA. A.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, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>1.OA.C.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 $12 - 8 = 4$).</p>

	<p>Solve real-world problems involving addition</p> <p>Take away to subtract</p> <p>Count back and count on to subtract</p> <p>Use number bonds to subtract</p> <p>Tell subtraction stories about pictures</p> <p>Write and solve subtraction sentences related to subtraction stories; real-world problems</p> <p>Solve real-world subtraction problems</p> <p>Write fact families</p> <p>Use fact families to solve problems</p> <p>Determine if a number sentence involving addition and subtraction are true or false</p> <p><i>Vocabulary:</i> number bonds, part, whole, fact family, true, false</p>		<p>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.D.7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$.</p>
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Unit 2 Overview	
Unit Title: Shapes	
Unit Summary: In this unit, students will learn about flat and solid shapes. Students will learn to identify, classify, and sort flat and solid shapes based on defining and non-defining attributes. Students will compose flat shapes to create composite shapes as well as compose solid shapes to create a model. Students will also decompose flat shapes into 2 or 4 equal parts.	
Suggested Pacing: 16 days	
Learning Targets	
Unit Essential Questions: <ul style="list-style-type: none"> Why do we need to identify shapes? Why would we compose or decompose shapes? 	
Unit Enduring Understandings: <ul style="list-style-type: none"> attributes may or may not define a shape new shapes can be made from two or more other shapes compositions must be within the same dimension shares of a whole must always be equal decomposing into more equal shares creates smaller shares 	
Evidence of Learning	
Formative Assessment: Number Talks, Exploration Activities, Class Discussion, Journal Entries, Independent Practice	
Summative Unit Assessment: Chapter 3 unit assessment. This unit Assessment contains a variety of multiple choice, multiple select, and open ended questions that assess student understanding of the objectives and NJ Student Learning Standards listed below.	
Alternative Assessments: Students will have the opportunity to demonstrate their learning by completing chapter 3 Performance Task in student textbook/workbook.	

Objectives (Students will be able to...)	Key Concepts (Students will know...)	Suggested Assessments	Standards (NJSLs)
Chapter 3: Shapes and Patterns Identify flat and solid shapes Distinguish between defining and non-defining attributes Compose and decompose flat and solid shapes Identify and create patterns, models, and pictures using flat and solid shapes	Identify, classify, and describe flat shapes Divide flat shapes into two and four equal parts, and describe the parts Describe the whole flat shape as a sum of its parts Identify, classify, and sort solid shapes Compose flat shapes to create a picture or a new shape	Draw a picture using flat shapes and label the flat shapes used. Draw a picture using solid shapes and label the solid shapes used.	1.G.A.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. 1.G.A.2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or

	<p>Identify flat shapes in a picture</p> <p>Compose solid shapes to create a model</p> <p>Identify solid shapes in a model</p> <p>Identify flat and solid shapes in real life</p> <p>Use flat shapes to identify, continue, and make patterns</p> <p>Use solid shapes to identify, extend, and create patterns</p> <p><i>Vocabulary:</i> trapezoid, alike, different, divide, half of, halves, half-circle, quarter of, quarters, quarter-circle, fourth of, fourths, rectangular prism, pyramid, repeating pattern</p>		<p>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.</p> <p>1.G.A.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.</p> <p><i>Math Practices</i> SMP1 Make sense of problems and persevere in solving them. SMP2 Reason abstractly and quantitatively. sMP3 Construct viable arguments and critique the reasoning of others. SMP4 Model with mathematics.</p> <p><u>Interdisciplinary Connections:</u></p> <p>NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.</p>
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Unit 3 Overview	
Unit Title: Place Value and Operations to 20	
Unit Summary: In this unit, students will extend their knowledge of the number system to include numbers 11-20. Emphasis will be placed on the value of the digits in the ones and tens place. Students will compare and order numbers to 20. Students will extend their understanding of addition and subtraction to 2 digit numbers to solve real world problems using various methods and strategies.	
Suggested Pacing: 23 days	
Learning Targets	
Unit Essential Questions: <ul style="list-style-type: none"> • Why is place value important? • How does where the digits are located affects how one reads the number? • How does place value help one find the answers to addition and subtraction problems? • What is the relationship between addition and subtraction? • How can properties of operations help to solve addition and subtraction problems? • How can one determine if an equation is true or false? • When the unknown number is found for an equation, how can one tell if it is correct? 	
Unit Enduring Understandings: <ul style="list-style-type: none"> • the location of digits in a number determines the value of the number. • to compare two numbers, one must compare the digits in each place, starting with the tens place. • concrete models, drawings, strategies based on place value, properties of operations, and/or the relationship between addition and subtraction can help one solve problems. • when adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. • when subtracting multiples of 10 from multiples of 10, one subtracts tens from tens and knows that 0 remains in the ones place. • addition involves adding to and putting together • subtraction involves taking from, taking apart, and comparing • properties of operations are used as strategies for solving addition and subtraction problems • knowing how addition and subtraction are related helps us to solve math problems • the equal sign represents two sides that are balanced and have equivalent expressions on each side • an equation is true if the representation on the left side of the equal sign is equivalent to the representation on the right side of the equal sign; otherwise it is false 	
Evidence of Learning	
Formative Assessment: Number Talks, Exploration Activities, Class Discussion, Journal Entries, Independent Practice	
Summative Unit Assessment: Chapter 4 and 5 unit assessments. This unit Assessment contains a variety of multiple choice, multiple select, and open ended questions that assess student understanding of the objectives and NJ Student Learning Standards listed below.	
Alternative Assessments: Students will have the opportunity to demonstrate their learning by completing chapter 4 and 5 Performance Tasks in student textbook/workbook.	

Objectives (Students will be able to...)	Key Concepts (Students will know...)	Suggested Assessments	Standards (NJSLs)
<p>Chapter 4: Numbers to 20</p> <p>Count, write, and read numbers to 20</p> <p>Represent numbers to 20 in a place-value chart</p> <p>Compare and order numbers to 20</p>	<p>Count on from 10 to 20.</p> <p>Read and write 11 to 20 in numbers and words</p> <p>Use place-value chart to show numbers to 20</p> <p>Use tens and ones to show numbers to 20</p> <p>Compare numbers to 20</p> <p>Order numbers to 20</p> <p>Find 1 more or 2 more than a number</p> <p>Find 1 less or 2 less than a number</p> <p>Find the missing numbers in a number pattern</p> <p><i>Vocabulary:</i> place value, place-value chart, greater than (>), less than (<), greatest, least</p>	<p>Students will pick two numbers from 11 to 20. Students will write the numbers in word form and draw cubes to show the number in tens and ones. Then, students will write a greater than or less than sentence using those two numbers.</p>	<p>1.NBT.A.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> <p>1.NBT.B. 2. Understand that the two digits of a two-digit number represent amounts of tens and ones.</p> <p>1.NBT.B.3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.</p> <p><i>Math Practices</i> SMP 1 Make sense of problems and persevere in solving them. SMP 2 Reason abstractly and quantitatively. SMP4 Model with mathematics. SMP 3 Construct viable arguments and critique the reasoning of others. SMP 4 Model with mathematics. SMP 6 Attend to precision. SMP 7 Look for and make use of structure.</p> <p><u>Interdisciplinary Connections:</u></p> <p>NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.</p>
<p>Chapter 5: Addition and Subtraction Within 20</p> <p>Use various strategies to add within 20</p> <p>Use various strategies to subtract within 20</p> <p>Solve real world addition and subtraction problems</p>	<p>Add by counting on</p> <p>Add by making a 10</p> <p>Add by using doubles and doubles plus one facts</p> <p>Understand that addition can be done in any order</p> <p>Subtract by counting back</p> <p>Subtract by grouping into a 10 and ones</p> <p>Recognize related addition and subtraction sentences</p> <p>Make fact families from number sentences</p> <p>Subtract using addition facts</p>	<p>Write and draw an addition number story. Write the matching addition number sentence and explain what method you used to solve your problem.</p> <p>Write and draw a subtraction number story. Write the matching subtraction number sentence and explain what method you used to solve your problem.</p>	<p>1.OA.A. 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, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>1.OA.B.3. Apply properties of operations as strategies to add and subtract.3 Examples: If $8 + 3 = 11$ is known, then $3 + 8 = 11$ is also known. (Commutative property of addition.) To add $2 + 6 + 4$, the second two numbers can be added to make a ten, so $2 + 6 + 4 = 2 + 10 = 12$. (Associative property of</p>

	<p>Determine if number sentences involving addition and subtraction are true or false</p> <p>Solve real-world problems involving addition and subtraction</p> <p><i>Vocabulary:</i> group, doubles facts, doubles plus one facts</p>		<p>addition.) {Students need not use formal terms for these properties}</p> <p>1.OA.C. 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 $6 + 6 + 1 = 12 + 1 = 13$).</p>
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Unit 4 Overview	
Unit Title: Numbers to 40	
Unit Summary: In this unit, students will extend their knowledge of the number system to include numbers 21-40. Students will represent these numbers in a place-value chart. Students will also compare and order numbers up to 40 as well as exploring both increasing and decreasing number patterns.	
Suggested Pacing: 10 days	
Learning Targets	
Unit Essential Questions: <ul style="list-style-type: none"> Why is place value important? How does where the digits are located affect how one reads the number? 	
Unit Enduring Understandings: <ul style="list-style-type: none"> the location of digits in a number determines the value of the number. to compare two numbers, one must compare the digits in each place, starting with the tens place. 	
Evidence of Learning	
Formative Assessment: Number Talks, Exploration Activities, Class Discussion, Journal Entries, Independent Practice	
Summative Unit Assessment: Chapter 6 unit assessment. This unit Assessment contains a variety of multiple choice, multiple select, and open ended questions that assess student understanding of the objectives and NJ Student Learning Standards listed below.	
Alternative Assessments: Students will have the opportunity to demonstrate their learning by completing chapter 6 Performance Task in student textbook/workbook.	

Objectives (Students will be able to...)	Key Concepts (Students will know...)	Suggested Assessments	Standards (NJSLs)
Chapter 6: Numbers to 40 Count, write, and read numbers to 40 Represent numbers to 40 in a place-value chart Compare and order numbers to 40	Count on from 20 to 40 Read and write 21 to 40 in numbers and words Use place-value chart to show numbers to 40 Use tens and ones to show numbers to 40 Use a strategy to compare numbers to 40 Order numbers to 40 Find the missing numbers in a number pattern <i>Vocabulary:</i> twenty-one, twenty-two,	Students will pick two numbers from 21 to 40. Students will write the numbers in word form and draw each number in a place-value chart. Then, students will write a greater than or less than sentence using those two numbers, including the greater than (>) or less than (<) symbol. Students will draw 3 numbers from 21-40 each in a place value chart. Then, order the numbers from least to greatest.	1.NBT.A.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. 1.NBT.B. 2. Understand that the two digits of a two-digit number represent amounts of tens and ones. 1.NBT.B.3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <. <i>Math Practices</i>

	twenty-three, twenty-four, twenty-five, twenty-six, twenty-seven, twenty-eight, twenty-nine, thirty, forty		SMP 1 Make sense of problems and persevere in solving them. SMP 2 Reason abstractly and quantitatively. SMP 5 Use appropriate tools strategically. SMP 6 Attend to precision. SMP 7 Look for and make use of structure. SMP 8 Look for and express regularity in repeated reasoning.
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Unit 5 Overview	
Unit Title: Calendar and Time	
Unit Summary: In this unit, students will learn to read a calendar, the days of the week, and the months of the year as well as how to write the date. Students will learn to tell time on analog and digital clocks. They will learn the different parts of a clock and to read and write time to the nearest hour and half hour. Students will learn and use vocabulary such as half past to discuss time. Students will solve real world problems involving time.	
Suggested Pacing: 9 days	
Learning Targets	
Unit Essential Questions: <ul style="list-style-type: none"> How do the positions of the hands on an analog clock indicate the time? How do the numbers on a digital clock indicate the time? 	
Unit Enduring Understandings: <ul style="list-style-type: none"> When time passes, the hour hand and the minute hand move at different rates. 	
Evidence of Learning	
Formative Assessment: Number Talks, Exploration Activities, Class Discussion, Journal Entries, Independent Practice	
Summative Unit Assessment: Chapter 7 unit assessment. This unit Assessment contains a variety of multiple choice, multiple select, and open ended questions that assess student understanding of the objectives and NJ Student Learning Standards listed below.	
Alternative Assessments: Students will have the opportunity to demonstrate their learning by completing chapter 7 Performance Task in student textbook/workbook.	

Objectives (Students will be able to...)	Key Concepts (Students will know...)	Suggested Assessments	Standards (NJSLs)
Chapter 7: Calendar and Time Read a calendar, days of the weeks, and months of the year Tell time to the nearest hour and half hour.	Read a calendar Know the days of the week Know the months of the year Know the seasons of the year Use the term 'o'clock to tell the time to the hour Read and tell time to the hour on an analog clock Read and tell time to the hour on a digital clock Use the term half past to tell time to the half hour Read and tell time to the half hour	Show 7 o'clock in the morning on a digital and analog clock. Draw a matching activity you do at 7 o'clock. Pick a time to the half hour after school and show it on an analog and digital clock. Draw a matching activity you do at that time.	1.MD.B.3. Tell and write time in hours and half-hours using analog and digital clocks. <i>Math Practices</i> SMP 1 Make sense of problems and persevere in solving them. SMP 2 Reason abstractly and quantitatively. SMP 3 Construct viable arguments and critique the reasoning of others. SMP 4 Model with mathematics. SMP 5 Use appropriate tools strategically. <u>Interdisciplinary Connections:</u>

	<p>on an analog clock</p> <p>Read and tell time to the half hour on a digital clock</p> <p><i>Vocabulary:</i> calendar, days, weeks, months, year, date, seasons, warmer, colder, o'clock, minute hand, hour hand, digital clock, half hour, half past,</p>		<p>NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.</p>
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Unit 6 Overview	
Unit Title: Operations to 40	
Unit Summary: In this unit, students will extend their knowledge with numbers 21-40. Students will compare and order numbers to 40 and continue to extend their understanding of addition and subtraction of 2 digit numbers to solve real world problems. Place value strategies for addition and subtraction such as, regrouping 10 ones as 1 ten and 1 ten as 10 ones will be emphasized.	
Suggested Pacing: 17 days	
Learning Targets	
Unit Essential Questions: <ul style="list-style-type: none"> • How does place value help one find the answers to addition and subtraction problems? • What is the relationship between addition and subtraction? • How can properties of operations help to solve addition and subtraction problems? • How can one determine if an equation is true or false? • When the unknown number is found for an equation, how can one tell if it is correct? 	
Unit Enduring Understandings: <ul style="list-style-type: none"> • concrete models, drawings, strategies based on place value, properties of operations, and/or the relationship between addition and subtraction can help one solve problems. • when adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. • when subtracting multiples of 10 from multiples of 10, one subtracts tens from tens and knows that 0 remains in the ones place. • addition involves adding to and putting together • subtraction involves taking from, taking apart, and comparing • properties of operations are used as strategies for solving addition and subtraction problems • knowing how addition and subtraction are related helps us to solve math problems • the equal sign represents two sides that are balanced and have equivalent expressions on each side • an equation is true if the representation on the left side of the equal sign is equivalent to the representation on the right side of the equal sign; otherwise it is false 	
Evidence of Learning	
Formative Assessment: Number Talks, Exploration Activities, Class Discussion, Journal Entries, Independent Practice	
Summative Unit Assessment: Chapter 8 unit assessment. This unit Assessment contains a variety of multiple choice, multiple select, and open ended questions that assess student understanding of the objectives and NJ Student Learning Standards listed below.	
Alternative Assessments: Students will have the opportunity to demonstrate their learning by completing chapter 8 Performance Task in student textbook/workbook.	

Objectives (Students will be able to...)	Key Concepts (Students will know...)	Suggested Assessments	Standards (NJSLs)
<p>Chapter 8: Operations to 40</p> <p>Apply strategies for adding two digit numbers with and without regrouping</p> <p>Apply strategies for subtracting two digit numbers with and without regrouping</p> <p>Solve real world problems involving addition and subtraction</p>	<p>Add ones to a 2-digit number without regrouping</p> <p>Add tens to a 2-digit number</p> <p>Add ones and tens to a 2-digit number without regrouping</p> <p>Regroup ones into a 10 and ones</p> <p>Add ones to a 2-digit number with regrouping</p> <p>Add ones and tens to a 2-digit number with regrouping</p> <p>Add three numbers with regrouping</p> <p>Subtract ones from a 2-digit number without regrouping</p> <p>Subtract tens from a 2-digit number</p> <p>Subtract ones and tens from a 2-digit number without regrouping</p> <p>Regroup tens into tens and ones</p> <p>Subtract ones from a 2-digit number with regrouping</p> <p>Subtract ones and tens from a 2-digit number with regrouping</p> <p>Solve real-world problems involving addition and subtraction</p> <p>Use related addition and subtraction facts to check answers to real-world problems</p> <p>Solve real-world problems involving the addition of three whole numbers whose sum is less than or equal to 20</p> <p>Use objects or pictures to find total number of objects in groups of the same size</p> <p>Relate repeated addition to the concept of multiplication</p> <p><i>Vocabulary:</i> digit, regroup, same groups, rows</p>	<p>Create an addition number story using numbers up to 40. Solve it. Then, use related subtraction facts to check your answer.</p> <p>Create a subtraction number story using numbers up to 40. Solve it. Then, use related addition facts to check your answer.</p>	<p>1.NBT.C. 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> <p>1.NBT.C. 6. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (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> <p>1.OA.A.2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p><i>Math Practices</i> SMP 1 Make sense of problems and persevere in solving them. SMP 2 Reason abstractly and quantitatively. SMP 3 Construct viable arguments and critique the reasoning of others. SMP 4 Model with mathematics. SMP 5 Use appropriate tools strategically. SMP 6 Attend to precision. SMP 7 Look for and make use of structure.</p> <p><u>Career Readiness, Life Literacies, and Key Skills:</u></p> <p>9.1.2.FP.2: Differentiate between financial wants and needs.</p> <p>9.4.2.CI.1: Demonstrate openness to new ideas and perspectives</p>

Unit 7 Overview	
Unit Title: Length	
Unit Summary: In this unit, students will learn to measure objects using non standard units of measure. Students will use vocabulary such as short/shorter/shortest, long/longer/longest, and tall/taller/tallest to compare the heights and lengths of various objects.	
Suggested Pacing: 10 days	
Learning Targets	
Unit Essential Questions: <ul style="list-style-type: none"> How do we measure the length of an object? How do we compare the lengths of two objects? 	
Unit Enduring Understandings: <ul style="list-style-type: none"> lengths of objects can be compared to lengths of other objects. measurement is an iteration of same-size units. 	
Evidence of Learning	
Formative Assessment: Number Talks, Exploration Activities, Class Discussion, Journal Entries, Independent Practice	
Summative Unit Assessment: Chapter 9 unit assessment. This unit Assessment contains a variety of multiple choice, multiple select, and open ended questions that assess student understanding of the objectives and NJ Student Learning Standards listed below.	
Alternative Assessments: Students will have the opportunity to demonstrate their learning by completing chapter 9 Performance Task in student textbook/workbook.	

Objectives (Students will be able to...)	Key Concepts (Students will know...)	Suggested Assessments	Standards (NJSLS)
Chapter 9: Length Use non standard units to find the length or height of an object. Compare the height or lengths of up to 3 different objects.	Compare two lengths using the terms tall, taller, long, longer, short, and shorter Compare two lengths indirectly by comparing each with a third length Compare more than two lengths using the terms tallest, longest, and shortest Use a common starting point when comparing lengths Measure length using non-standard units Understand that using different non-standard units may give different measurements for the same object		1.MD.A. 1. Order three objects by length; compare the lengths of two objects indirectly by using a third object. 1.MD.A. 2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter 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. <i>Math Practices</i>

	<p>Use the terms unit to describe length</p> <p><i>Vocabulary:</i> tallest, shortest, longest, starting line, about, unit</p>		<p>SMP 1 Make sense of problems and persevere in solving them. SMP 2 Reason abstractly and quantitatively. SMP 3 Construct viable arguments and critique the reasoning of others. SMP 5 Use appropriate tools strategically. SMP 6 Attend to precision.</p>
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Unit 8 Overview

Unit Title: Place Value and Operations to 120

Unit Summary:

In this unit, students will extend their knowledge of the number system to include numbers up to 120. Students will compare and order numbers to 120 and continue to extend their understanding of addition and subtraction to solve real world problems. Emphasis will be placed on the value of each digit in the ones, tens, and hundreds place, along with place value strategies for addition and subtraction.

Suggested Pacing: 20 days

Learning Targets

Unit Essential Questions:

- Why is place value important?
- How does where the digits are located affect how one reads the number?
- How does place value help one find the answers to addition and subtraction problems?
- What is the relationship between addition and subtraction?
- How can properties of operations help to solve addition and subtraction problems?
- How can one determine if an equation is true or false?
- When the unknown number is found for an equation, how can one tell if it is correct?

Unit Enduring Understandings:

- the location of digits in a number determines the value of the number.
- to compare two numbers, one must compare the digits in each place, starting with the tens place.
- concrete models, drawings, strategies based on place value, properties of operations, and/or the relationship between addition and subtraction can help one solve problems.
- when adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.
- when subtracting multiples of 10 from multiples of 10, one subtracts tens from tens and knows that 0 remains in the ones place.
- addition involves adding to and putting together
- subtraction involves taking from, taking apart, and comparing
- properties of operations are used as strategies for solving addition and subtraction problems
- knowing how addition and subtraction are related helps us to solve math problems
- the equal sign represents two sides that are balanced and have equivalent expressions on each side
- an equation is true if the representation on the left side of the equal sign is equivalent to the representation on the right side of the equal sign; otherwise it is false

Evidence of Learning

Formative Assessment: Number Talks, Exploration Activities, Class Discussion, Journal Entries, Independent Practice

Summative Unit Assessment: Chapters 10 and 11 unit assessments. This unit Assessment contains a variety of multiple choice, multiple select, and open ended questions that assess student understanding of the objectives and NJ Student Learning Standards listed below.

Alternative Assessments: Students will have the opportunity to demonstrate their learning by completing chapter 10 and 11 Performance Tasks in student textbook/workbook.

Objectives (Students will be able to...)	Key Concepts (Students will know...)	Suggested Assessments	Standards (NJSLs)
<p>Chapter 10: Numbers to 120</p> <p>Read and write numbers to 120.</p> <p>Compare and order numbers to 120.</p>	<p>Count on from 40 to 120</p> <p>Read and write 41 to 120 in numbers and words</p> <p>Use a place-value chart to show numbers to 100</p> <p>Use tens and ones to show numbers to 100</p> <p>Decompose 2-digit numbers in different ways</p> <p>Use a strategy to compare numbers to 100</p> <p>Order numbers to 100</p> <p>Find the missing numbers in a number pattern</p> <p><i>Vocabulary:</i> fifty, sixty, seventy, eighty, ninety, one hundred, one hundred ten, one hundred twenty</p>	<p>Pick 3 numbers greater than 40. Draw them in a place-value chart and order them from greatest to least.</p>	<p>1.NBT.A.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> <p>1.NBT.B.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).</p> <p>1.NBT.B.3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.</p> <p><i>Math Practices</i> SMP 1 Make sense of problems and persevere in solving them. SMP 2 Reason abstractly and quantitatively. SMP 3 Construct viable arguments and critique the reasoning of others. SMP 4 Model with mathematics. SMP 5 Use appropriate tools strategically. SMP 6 Attend to precision. SMP 8 Look for and express regularity in repeated reasoning.</p> <p><u>Interdisciplinary Connections:</u></p> <p>NJSLA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.</p> <p><u>Computer Science:</u></p> <p>8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.</p> <p><u>Career Readiness, Life Literacies, and Key Skills:</u></p> <p>9.1.2.FP.2: Differentiate between financial wants and needs.</p> <p>9.4.2.CL.1: Demonstrate openness to new ideas and perspectives.</p>

			9.4.2.CT.3: Use a variety of types of thinking to solve problems.
<p>Chapter 11: Operations to 120</p> <p>Use various methods and strategies to add with and without regrouping</p> <p>Use various methods and strategies to subtract with and without regrouping</p>	<p>Add ones to a 2-digit number without regrouping</p> <p>Add tens to a 2-digit number</p> <p>Add ones and tens to a 2-digit number without regrouping</p> <p>Add ones to a 2-digit number with regrouping</p> <p>Add ones and tens to a 2-digit number with regrouping</p> <p>Subtract ones from a 2-digit number without regrouping</p> <p>Subtract tens from a 2-digit number</p> <p>Subtract ones and tens from a 2-digit number without regrouping</p> <p>Subtract ones from a 2-digit number with regrouping</p> <p>Subtract ones and tens from a 2-digit number</p>	<p>Students will be given two addition problems, one without regrouping and one with regrouping. Students will solve using a place value chart.</p> <p>Students will be given two subtraction problems, one without regrouping and one with regrouping. Students will solve using a place value chart.</p>	<p>1.NBT.C.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> <p>1.NBT.C.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> <p>1.NBT.C.6. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (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>

Unit 9 Overview	
Unit Title: Data	
Unit Summary: In this unit, students will learn to organize, represent, and interpret data. Students will gather real world data and display it in picture graphs, tally charts, and bar graphs. Students will be able to answer how many data points are in a given category and compare which category has more or less data points than another category.	
Suggested Pacing: 8 days	
Learning Targets	
Unit Essential Questions: <ul style="list-style-type: none"> How can representing data help us to interpret it and draw conclusions? 	
Unit Enduring Understandings: <ul style="list-style-type: none"> There are many ways to analyze data. 	
Evidence of Learning	
Formative Assessment: Number Talks, Exploration Activities, Class Discussion, Journal Entries, Independent Practice	
Summative Unit Assessment: Chapter 12 unit assessment. This unit Assessment contains a variety of multiple choice, multiple select, and open ended questions that assess student understanding of the objectives and NJ Student Learning Standards listed below.	
Alternative Assessments: Students will have the opportunity to demonstrate their learning by completing chapter 12 Performance Task in student textbook/workbook.	

Objectives (Students will be able to...)	Key Concepts (Students will know...)	Suggested Assessments	Standards (NJSLs)
Chapter 12: Graphs/Data Collect and organize data into picture graphs and bar graph Organize data into tally chart Ask and answer questions about data Compare data categories to one another	Collect, organize, and show data as a picture graph Understand the data shown in a picture graph Understand the data shown in a picture graph using symbols Make a tally chart Show data in a tally chart as a picture graph Represent data using a bar graph Interpret data shown in a bar graph	Students will collect data from their classmates by creating a tally chart. Then represent their data in a picture graph. Students will create 2 questions for their peers to interpret their data.	1.MD.C. 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. <i>Math Practices</i> SMP 1 Make sense of problems and persevere in solving them. SMP 3 Construct viable arguments and critique the reasoning of others. SMP 4 Model with mathematics. <u>Interdisciplinary Connections:</u>

			<p>NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.</p> <p><u>Computer Science:</u></p> <p>8.1.2.DA.4: Make predictions based on data using charts or graphs</p>
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