

Madison Public Schools

Grade 2 Mathematics Curriculum

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Course Overview

Description

Grade 2 Mathematics is a full year course aligned to the second grade New Jersey Student Learning Standards. Instruction will focus on four critical areas:

- extending understanding of base-ten notation
- building fluency with addition and subtraction
- using standard units of measure
- describing and analyzing shapes

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/workbook 3A and 3B (Teacher and Student Editions), ST Math

Supplemental: Extra Practice & Homework Grade 2 (online), Enrichment Grade 2 (online), Reteach Grade 2 (online), Fact fluency Grade 2, Ed your friend in learning platform, 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	Numbers to 1,000	4 weeks
2	Addition Within 1,000	5 weeks
3	Subtraction Within 1,000	4 weeks
4	Using Bar Models: Addition and Subtraction	3 weeks
5	Multiplication Tables	5 weeks
6	Time and Money	4 weeks
7	Length	4 weeks
8	Shapes	2 weeks
9	Graphs and Line Plots	3 weeks

Unit 1 Overview
Unit Title: Numbers to 1,000
Unit Summary: In this unit, students will extend their understanding of place value to include the thousands place. Students will represent numbers up to 1,000 in standard form, word form, and expanded form. Students will use base ten blocks to represent the value of each digit in a multi-digit number, and compare numbers using symbols and words.
Suggested Pacing: 14 lessons
Learning Targets
Unit Essential Questions: <ul style="list-style-type: none"> Why is place value important?
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 largest place.
Evidence of Learning
<p>Formative Assessments: A variety of formative assessments will be used throughout the lesson, such as Number Talks, Exploration Activities, Class Discussion, Journal Entries, Independent Practice.</p> <p>Summative Assessments: Chapter 1 unit assessments. These unit assessments contain 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.</p> <p>Alternative Assessments: Students will have the opportunity to demonstrate their learning by completing Chapter 1 Performance Tasks in student textbook/workbook.</p>

Objectives (Students will be able to...)	Key Concepts (Students will know...)	Suggested Assessments	Standards (NJSLS)
<p>Use base-ten blocks to count, read, and write numbers to 1,000.</p> <p>Count on by hundreds using base ten blocks; Count within 1000; skip-count by 5s, 10s, and 100s.</p> <p>Use a place-value chart to read, write, and represent numbers to 1,000.</p> <p>Read and write numbers to 1,000 in expanded form, standard form, and word form.</p> <p>Use base-ten blocks and place-value charts to compare Numbers.</p> <p>Compare numbers using the terms greater than and less than.</p> <p>Compare numbers using</p>	<p>Read, write, and count to 1,000</p> <p>Compare numbers within 1,000 using words and symbols.</p> <p>Identify number patterns.</p> <p>Vocabulary: Thousands, hundreds, expanded form, standard form, word form</p>	<p>Make your own number pattern. How did you do it?</p>	<p>2.NBT.A. Understand place value.</p> <p>2.NBT.B. Use place value understanding and properties of operations to add and subtract.</p> <p>Mathematical Practices: SMP 1 Make sense of problems and persevere in solving them.</p> <p>SMP 2 Reason abstractly and quantitatively.</p> <p>SMP 3 Construct viable arguments and critique the reasoning of others.</p> <p>SMP 6 Attend to precision.</p> <p>SMP 8 Look for and express regularity in repeated reasoning.</p> <p>Career Readiness, Life Literacies, and Key Skills:</p>

<p>symbols < and >.</p> <p>Order 3 digit numbers.</p> <p>Identify number patterns.</p>			<p>9.4.2.CI.1 Demonstrate openness to new ideas and perspectives.</p> <p>Computer Science 8.1.2.CS.1: Select and operate devices that perform a variety of tasks accurately and quickly based on user needs and preferences.</p> <p>Interdisciplinary Connection NJSLSA.SA.SL.1. 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 2 Overview	
Unit Title: Addition Within 1,000	
Unit Summary: In this unit, students will build on their understanding of addition by learning to add 3-digit numbers with and without regrouping. They will use base ten blocks and models based on place value to understand regrouping when adding. Students will be able to explain why various strategies work while others do not. Students will also apply mental math strategies to add 2-digit numbers. Students will solve real world problems involving addition.	
Suggested Pacing: 20 lessons	
Learning Targets	
Unit Essential Questions: <ul style="list-style-type: none"> How can one find the total of parts? How can one find the missing part of a whole? How does place value help one find the answers to addition problems? 	
Unit Enduring Understandings: <ul style="list-style-type: none"> addition involves adding to and putting together. missing numbers in a math sentence can be found using addition and subtraction. a symbol can represent an unknown. the unknown may be located in any position in the equation. objects, drawings, and equations can be used to solve problems. 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 10 or 100, one must add one to the tens-digit or one to the hundreds-digit and not change the ones-digit. 	
Evidence of Learning	
Formative Assessments: A variety of formative assessments will be used throughout the lesson, such as Number Talks, Exploration Activities, Class Discussion, Journal Entries, Independent Practice. Summative Assessments: Chapter 2 unit assessments. These unit assessments contain 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 2 Performance Tasks in student textbook/workbook.	

Objectives (Students will be able to...)	Key Concepts (Students will know...)	Suggested Assessments	Standards (NJSLs)
Add numbers within 20 mentally using different strategies. Use addition strategies and algorithm to add numbers within 100. Use addition strategies and algorithm to add up to 3-digit numbers without regrouping.	Add fluently within 100. Add three or four two digit numbers. Add without regrouping. Add with regrouping. Vocabulary: Add mentally	Roll 3 dice, create a 3-digit number, (repeat) now add the two numbers together. Students will be given an incorrect answer. They will be asked to spot the mistake and then write the correct working.	2.OA.B Add and subtract within 20. 2.NBT.B. Use place value understanding and properties of operations to add and subtract. 2.NBT.B.5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or

<p>Use addition strategies and algorithm to add up to 3-digit numbers with regrouping in ones.</p> <p>Use addition strategies and algorithm to add up to 3-digit numbers with regrouping in tens.</p> <p>Use addition strategies and algorithm to add up to 3-digit numbers with regrouping in ones and tens.</p> <p>Use addition strategies and algorithm to add up to four 2-digit numbers.</p>			<p>the relationship between addition and subtraction.</p> <p>2.NBT.B.7. Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.</p> <p>2.NBT.B.8. Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.</p> <p>Mathematical Practices: 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</p> <p>Career Readiness, Life Literacies, and Key Skills: 9.4.2.IML.2 Represent data in a visual format to tell a story about the data.</p> <p>Computer Science 8.1.2.CS.1: Select and operate devices that perform a variety of tasks accurately and quickly based on user needs and preferences.</p> <p>Interdisciplinary Connection NJSLSA.SA.SL.1. 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: Subtraction Within 1,000			
Unit Summary: In this unit, students will build on their understanding of subtraction by learning to subtract 3-digit numbers with and without regrouping. They will use base ten blocks and models based on place value to understand regrouping when subtracting. Students will be able to explain why various strategies work while others do not. Students will also apply mental math strategies to subtract 10 or 100 from a given number. Students will solve real world problems involving subtraction.			
Suggested Pacing: 19 lessons			
Learning Targets			
Unit Essential Questions: <ul style="list-style-type: none"> How can one find the total of parts? How can one find the missing part of a whole? How does place value help one find the answers to addition and subtraction problems? 			
Unit Enduring Understandings: <ul style="list-style-type: none"> subtraction involves taking from, taking apart, and comparing. missing numbers in a math sentence can be found using addition and subtraction. a symbol can represent an unknown. the unknown may be located in any position in the equation. objects, drawings, and equations can be used to solve problems. 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 subtracting 10 or 100, one must subtract one from the tens-digit or one from the hundreds-digit and not change the ones-digit. 			
Evidence of Learning			
Formative Assessments: A variety of formative assessments will be used throughout the lesson, such as Number Talks, Exploration Activities, Class Discussion, Journal Entries, Independent Practice. Summative Assessments: Chapter 3 unit assessments. These unit assessments contain 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 Tasks in student textbook/workbook.			

Objectives (Students will be able to...)	Key Concepts (Students will know...)	Suggested Assessments	Standards (NJSLs)
Subtract numbers within 20 mentally using different strategies.	Subtract fluently within 100.	Roll a dice, create a 4-digit number., Repeat, but create a 3-digit number. Now subtract the 3-digit number from the 4-digit number.	2.OA.B.2. Fluently add and subtract within 20 using mental strategies. By the end of Grade 2, know from memory all sums of two one-digit numbers.
Use subtraction strategies and algorithm to subtract numbers within 100.	Subtract without regrouping.	Students will be given an incorrect answer. They will be asked to spot the mistake and then write the correct working.	2.NBT.B.5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or
Use subtraction strategies and algorithm to subtract up to 3-digit numbers without	Subtract with regrouping.		
	Vocabulary: Subtract mentally		

<p>regrouping.</p> <p>Use subtraction strategies and algorithm to subtract up to 3-digit numbers with regrouping in tens and ones.</p> <p>Use subtraction strategies and algorithm to subtract up to 3-digit numbers with regrouping in hundreds and tens.</p> <p>Use subtraction strategies and algorithm to subtract up to 3-digit numbers with regrouping in hundreds, tens, and ones.</p> <p>Subtract from 3-digit numbers with zeros by regrouping in hundreds, tens, and ones.</p>			<p>the relationship between addition and subtraction.</p> <p>2.NBT.B.7. Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.</p> <p>2.NBT.B.8. Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.</p> <p>Mathematical Practices: SMP 1 Make sense of problems and persevere in solving them. SMP2 Reason abstractly and quantitatively. SMP3 Construct viable arguments and critique the reasoning of others. SMP7 Look for and make use of structure.</p> <p>Career Readiness, Life Literacies, and Key Skills: 9.4.2.IML.2 Represent data in a visual format to tell a story about the data.</p> <p>Interdisciplinary Connections NJSLSA.SA.SL.1. 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 4 Overview			
Unit Title: Using Bar Models with Addition and Subtraction			
Unit Summary: This unit focuses on modeling and reasoning. Students will learn to use bar models to solve real world problems involving addition and subtraction. They will apply what they learned in Units 2 and 3 in addition to learning how to use mathematical models to represent real world problems. A variety of one and two step problems will be explored to allow students to see and understand the inverse relationship between addition and subtraction as well as situations involving comparisons. This unit focuses heavily on the SMP1: Make sense of problems and persevere in solving them and SMP4: Model with mathematics.			
Suggested Pacing: 15 lessons			
Learning Targets			
Unit Essential Questions: <ul style="list-style-type: none"> How can one find the total of parts? How can one find the missing part of a whole? How can one solve problems involving addition and subtraction? 			
Unit Enduring Understandings: <ul style="list-style-type: none"> objects, drawings, and equations can be used to solve problems. concrete models, drawings, strategies based on place value, properties of operations, and/or the relationship between addition and subtraction can help one solve problems. 			
Evidence of Learning			
Formative Assessments: A variety of formative assessments will be used throughout the lesson, such as Number Talks, Exploration Activities, Class Discussion, Journal Entries, Independent Practice. Summative Assessments: Chapter 4 unit assessments. These unit assessments contain 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 Performance Tasks in student textbook/workbook.			

Objectives (Students will be able to...)	Key Concepts (Students will know...)	Suggested Assessments	Standards (NJSLs)
Use bar models to interpret and represent the part-whole concept in addition and subtraction. Use bar models to interpret and represent the adding-on concept in addition and the taking-away concept in subtraction. Use bar models to interpret and represent the comparing concept in addition and subtraction. Use bar models to solve two-step addition and	Using part-whole in addition and subtraction. Comparing two sets. Adding on and taking away sets. Real world problems- two-step problems. Vocabulary: Bar model, comparison,	Present students with 2 pieces of information and a blank bar model. Have students write a question to match the information.	2.OA.A.1. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. 2.NBT.B.7. Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction;

subtraction real-world problems.			<p>relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.</p> <p>Mathematical Practices: SMP1 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. SMP4 Model with mathematics.</p> <p>Computer Science: 8.1.5.DA.3: Organize and present collected data visually to communicate insights gained from different views of data.</p>
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Unit 5 Overview	
Unit Title: Multiplication Tables	
Unit Summary: In this unit, students will build a foundation for multiplication. They will study equal groups and use rectangular arrays and repeated addition to understand multiplication. Students will understand even and odd numbers and apply that knowledge in forming equal groups. Students will use various strategies, such as visual models and skip counting to begin learning their multiplication facts. They will use related facts and known facts to discover new facts. Knowledge acquired in this unit will be built upon in subsequent grade levels.	
Suggested Pacing: 24 lessons	
Learning Targets	
Unit Essential Questions: <ul style="list-style-type: none"> Why would one need to pair things? How are multiplication and addition related? 	
Unit Enduring Understandings: <ul style="list-style-type: none"> a total number of objects can be found in a rectangular array by finding the sum of equal addends. odd numbers cannot be paired and even numbers can be paired. even numbers can be counted using skip-counting by 2s. repeatedly adding equal groups yields the same results as multiplying. 	
Evidence of Learning	
Formative Assessments: A variety of formative assessments will be used throughout the lesson, such as Number Talks, Exploration Activities, Class Discussion, Journal Entries, Independent Practice. Summative Assessments: Chapter 9 unit assessments. These unit assessments contain 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 Tasks in student textbook/workbook.	

Objectives (Students will be able to...)	Key Concepts (Students will know...)	Suggested Assessments	Standards (NJSLs)
Skip count by 2s. Use known multiplication facts to find other multiplication facts. Skip count by 5s. Skip count by 10s. Skip count by 3s. Skip count by 4s. Understand that multiplication can be done in any order.	Multiply by 2, 3, 4, 5, and 10 by making equal groups, write multiplication sentences, skip counting, dot paper, using fingers or counters. Use pictorial representations of objects and dot papers to make different multiplication sentences. Numbers can be multiplied in any order. Vocabulary: Skip count, dot paper, related multiplication facts,	Put 12 stars into equal groups in different ways. What are the multiplication sentences? Students will be given a multiplication sentence and asked to model different ways to solve the problem (e.g., skip counting, equal groups)	2.OA.C. Work with equal groups of objects to gain foundations for multiplication. 2.OA.C.3. Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends. 2.OA.C.4. Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an

			<p>equation to express the total as a sum of equal addends.</p> <p>2.NBT.2 Count within 1000; skip count by 5s, 10s, and 100s</p> <p>Math Practices: SMP 1 Make sense of problems and persevere in solving them. SMP 2 Reasons abstractly and quantitatively. SMP 7 Look for and make use of structure. SMP 8 Look for and express regularity in repeated reasoning.</p> <p>Interdisciplinary Connection: 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>Career Readiness, Life Literacies, and Key Skills: 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global.</p>
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Unit 6 Overview	
Unit Title: Time and Money	
Unit Summary: In this unit students will learn to count money up to \$20. They will recognize bills and coins and know their values. Students will write money amounts using the dollar and cent symbol. In addition, students will learn to tell time on both analog and digital clocks to the nearest five minutes. They will develop an understanding of AM and PM. Students will solve real world problems involving money and time.	
Suggested Pacing: 25 lessons	
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? How do we determine how much money is needed and how much money one has? 	
Unit Enduring Understandings: <ul style="list-style-type: none"> When time passes, the hour hand and the minute hand move at different rates. Different coins have different values, not related to the size of the coin. 	
Evidence of Learning	
Formative Assessments: A variety of formative assessments will be used throughout the lesson, such as Number Talks, Exploration Activities, Class Discussion, Journal Entries, Independent Practice. Summative Assessments: Chapter 10 unit assessments. These unit assessments contain 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 Performance Tasks in student textbook/workbook.	

Objectives (Students will be able to...)	Key Concepts (Students will know...)	Suggested Assessments	Standards (NJSLs)
Use the minute hand to show and tell time for every five minutes after the hour.	Show and tell time for every five minutes after the hour.	Give a time shown on the clock and give a time written incorrectly. Spot the mistake. Then, provide the correct time.	2.MD.C. Work with time and money.
Show and tell time in hours and minutes.	Tell time using A.M. and P.M.		2.MD.C.7. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
Show and tell time in hours and minutes.	Use concrete materials like paper bills and coins to identify amounts of money to \$20 and use bills and coins to exchange money.	Show a given amount of money. An item costs a certain amount and the person says he/she does not have enough money to buy the item. Explain how much more money the person will need.	2.MD.C.8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately.
Use A.M. and P.M. to show morning, afternoon, or night.	Use pictorial representation like bar models to write addition and subtraction sentences to solve real-world problems involving money by using part-whole and comparison models.		2.NBT.2 Count within 1000; skip count by 5s, 10s, and 100s
Order events by time.			Mathematical Practices: SMP 1 Make sense of problems and persevere in solving them.
Recognize and identify \$1, \$5, \$10, and \$20 bills.	Use pictorial representation like bar models to write addition and subtraction sentences to solve		
Exchange money using coins and bills to \$20.			

<p>Count money using coins and bills.</p> <p>Write amounts of money using \$ and ¢.</p> <p>Write dollars as cents and cents as dollars.</p> <p>Compare amounts of money using tables.</p> <p>Order amounts of money.</p> <p>Use bar models to solve real-world problems in dollars only or in cents only.</p>	<p>real-world problems involving money by using part-whole and comparison models.</p> <p>Vocabulary: minute, hour, clock face, after, A.M., P.M., bills, dollar (\$), decimal point, table</p>		<p>SMP 2 Reason abstractly and quantitatively.</p> <p>SMP 3 Construct viable arguments and critique the reasoning of others.</p> <p>SMP 4 Model with mathematics.</p> <p>SMP 5 Use appropriate tools strategically.</p> <p>SMP 6 Attend to precision.</p> <p>Career Readiness, Life Literacies, and Key Skills: 9.1.2.FI.1. Differentiate the various forms of money and how they are used. (eg: coins, bills, checks, debit and credit cards)</p>
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Unit 7 Overview	
Unit Title: Length	
Unit Summary: In this unit, students will learn about measuring lengths using standard units. They will choose tools appropriately and estimate lengths of objects. Students will use addition and subtraction to compare lengths and answer real world problems. Students will represent sums and differences on a number line.	
Suggested Pacing: 16 lessons	
Learning Targets	
Unit Essential Questions: <ul style="list-style-type: none"> • Why do we measure objects? • How do we measure objects? • Why do we need standard units of measurement? • How are the locations of numbers on a number line related to length? • How can addition and subtraction be used to find lengths? 	
Unit Enduring Understandings: <ul style="list-style-type: none"> • the difference between non-standard and standard measurement. • measurement tools vary in the size of the unit on them; this variation will affect the choice of tools. • addition and subtraction can be used to solve word problems involving lengths that are given in the same units. • whole numbers can be represented as the lengths from 0 to the number located on an equally-spaced number line. • whole-number sums and differences can be represented on a number line. 	
Evidence of Learning	
Formative Assessments: A variety of formative assessments will be used throughout the lesson, such as Number Talks, Exploration Activities, Class Discussion, Journal Entries, Independent Practice. Summative Assessments: Chapter 5 unit assessments. These unit assessments contain 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 5 Performance Tasks in student textbook/workbook.	

Objectives (Students will be able to...)	Key Concepts (Students will know...)	Suggested Assessments	Standards (NJSLs)
<p>Measure and estimate length, width, and height in meters.</p> <p>Measure and estimate length, width, and height in centimeters.</p> <p>Draw lines of given lengths in centimeters.</p> <p>Solve one-step and two-step real-world problems involving metric lengths.</p> <p>Measure and estimate length, width, and height in feet.</p> <p>Measure and estimate length, width, and height in inches.</p> <p>Draw lines of given lengths in inches.</p> <p>Compare and order customary lengths.</p> <p>Find the difference in lengths of objects in customary units.</p> <p>Solve one-step and two-step real-world problems involving customary lengths.</p>	<p>Measure in meters and centimeters.</p> <p>Measure in feet and inches.</p> <p>Compare and order lengths.</p> <p>Solve real-world problems with addition and subtraction of metric and customary lengths.</p> <p>Vocabulary: meter stick, length, meter (m), width, height, centimeter (cm), foot (ft), inch (in)</p>	<p>Give students multiple statements involving objects measured in standard and customary lengths. Which statements are incorrect? Rewrite each incorrect statement to make it correct.</p> <p>Estimate and measure 3 items in standard and customary length. Order them. (e.g. longest to shortest, tallest to longest)</p>	<p>2.MD.A. Measure and estimate lengths in standard units.</p> <p>2.MD.A.3. Estimate lengths using units of inches, feet, centimeters, and meters.</p> <p>2.MD.A.4. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.</p> <p>2.MD.B. Relate addition and subtraction to length.</p> <p>2.MD.B.5. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.</p> <p>Mathematical Practices: 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.</p> <p>Interdisciplinary Connections 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>

Unit 8 Overview
Unit Title: Shapes
Unit Summary: In this unit, students will revisit the idea of equal shares. They will partition shapes into equal shares and use proper vocabulary such as halves and thirds to describe the equal shares. This work will lay the foundation for fractions in subsequent grade levels. In addition, students will continue learning about shapes and identify triangles, quadrilaterals, pentagons, hexagons, and cubes based on their attributes.
Suggested Pacing: 12 lessons
Learning Targets
Unit Essential Questions: <ul style="list-style-type: none"> Why do we need to identify shapes? Why would we partition shapes?
Unit Enduring Understandings: <ul style="list-style-type: none"> shares of a whole must always be equal. decomposing into more equal shares creates smaller shares. equal shares of identical wholes need not have the same shape.
Evidence of Learning
<p>Formative Assessments: A variety of formative assessments will be used throughout the lesson, such as Number Talks, Exploration Activities, Class Discussion, Journal Entries, Independent Practice.</p> <p>Summative Assessments: Chapter 11 unit assessments. These unit assessments contain 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.</p> <p>Alternative Assessments: Students will have the opportunity to demonstrate their learning by completing Chapter 11 Performance Tasks in student textbook/workbook.</p>

Objectives (Students will be able to...)	Key Concepts (Students will know...)	Suggested Assessments	Standards (NJSLs)
Recognize, identify, and describe lines and curves.	Identify lines and curves and learn to draw them.	Draw 2 different cubes on dot paper.	2.G.A. Reason with shapes and their attributes.
Draw lines and curves.	Use lines and curves to make different flat shapes.	Draw flat shapes to make another shape.	2.G.A. 1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
Identify, classify, and count flat and curved surfaces.	Identify flat and curved surfaces in real-life objects.		2.G.A. 2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
Recognize and identify flat shapes.	Note how surfaces affect the ability of a solid to stack, slide, and/or roll.		2.G.A. 3. Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds,
Cut flat shapes into equal parts.	Learn about flat shapes and their sides, corners, and angles.		
Use halves, thirds, and fourths to describe equal parts.	Cut different shapes into equal parts.		
Recognize that equal parts of the same whole do not need to have the same shape.	Use dot paper to draw flat and solid shapes.		
Combine flat shapes and take apart figures.	Identify flat and solid shapes in		

<p>Recognize and draw shapes with a given number of angles.</p> <p>Draw shapes and figures on dot paper and square grid paper.</p> <p>Recognize and identify solid shapes.</p> <p>Make models using solid shapes.</p> <p>Combine solid shapes and take apart models.</p> <p>Identify and count the equal faces on a cube.</p> <p>Draw a cube on dot paper.</p>	<p>real-life objects.</p> <p>Vocabulary: Line, curve, quadrilateral, pentagon, equal parts, third of, thirds, figure, angles, face</p>	<p>four fourths. Recognize that equal shares of identical wholes need not have the same shape.</p> <p>Mathematical Practices: 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.</p> <p>Interdisciplinary Connections: 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 9 Overview	
Unit Title: Graphs and Line Plots	
Unit Summary: In this unit, students will extend their understanding of graphs to include line plots. They will interpret data from line graphs, picture graphs, and bar graphs. Students will generate real world data and create their own graphs.	
Suggested Pacing: 5 lessons	
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 Assessments: A variety of formative assessments will be used throughout the lesson, such as Number Talks, Exploration Activities, Class Discussion, Journal Entries, Independent Practice. Summative Assessments: Chapter 7 unit assessments. These unit assessments contain 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 Tasks in student textbook/workbook.	

Objectives (Students will be able to...)	Key Concepts (Students will know...)	Suggested Assessments	Standards (NJSLs)
<p>Students will create, read, analyze, and interpret picture graphs</p> <p>Students will create, read, analyze, and interpret bar graphs</p> <p>Students will create, read, analyze, and interpret line plots</p>	<p>Represent and analyze data using a variety of graphs.</p> <p>Vocabulary: Survey, vertical bar graph, scale, axis, horizontal bar graph, line plot</p>	<p>Find what your classmates' favorite seasons are. Record your data in a tally chart. Then, draw a bar graph to show the data. Write statements about your data using 'greatest/fewest number of classmates' and 'more/fewer than'.</p>	<p>2.MD.D. Represent and interpret data.</p> <p>2.MD.D.9. Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.</p> <p>2.MD.D.10. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put together, take-apart, and compare problems using information presented in a bar graph.</p> <p>Mathematical Standards: SMP1 Make sense of problems and persevere in solving them. SMP2 Reason abstractly and quantitatively.</p>

			<p>SMP4 Model with mathematics. SMP 8 Look for and express regularity in repeated reasoning.</p> <p>Interdisciplinary Connections: NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.</p> <p>Computer Science: 8.1.2.DA.3: Identify and describe patterns in data visualizations. 8.1.2.DA.4: Make predictions based on data using charts or graphs.</p>
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