Board Approval Date: 8/20/2024
Course Title: 2nd Grade Mathematics
2nd Grade Math focuses on extending understanding of base-ten notation; building fluency with addition and subtraction; using standard units of measure; and describing and analyzing shapes.

Course Sequence & Pacing			
Estimated Number of Weeks	**Marking Period 1 Unit 1: Addition Within 100: Fluency & Strategies**		
1	Unit 1: Fluently Add and Subtract within 20	6	Unit 1: Add within 100 Using Strategies
2	Unit 1: Fluently Add and Subtract within 20	7	Unit 1: Add within 100 Using Strategies
3	Unit 1: Fluently Add and Subtract within 20	8	Unit 1: Fluently Add within 100
4	Unit 1: Work with Equal Groups	9	Unit 1: Fluently Add within 100
5	Unit 1: Work with Equal Groups	10	Unit 1: Assess, Reteach, Extend
Estimated Number of Weeks	**Marking Period 2 Unit 2: Subtraction Within 100: Fluency & Strategies & Problem Solving**		
11	Unit 2: Subtract within 100 Using Strategies	16	Unit 2: More Solving Problems Involving Addition and Subtraction
12	Unit 2: Subtract within 100 Using Strategies	17	iReady Mid Year & Fluency Assessment
13	Unit 2: Fluently Subtract Within 100	18	Unit 2: More Solving Problems Involving Addition and Subtraction
14	Unit 2: Fluently Subtract Within 100	19	Unit 2: Work with Time and Money
15	Unit 2: More Solving Problems Involving Addition and Subtraction	20	Unit 2: Work with Time and Money

Estimated Number of Weeks	Marking Period 3 Unit 3: Addition & Subtraction within 1,000 & Measurement		
21	Unit 3: Numbers to 1,000	26	Unit 3: Subtract Within 1,000 using Models and Strategies
22	Unit 3: Numbers to 1,000	27	Unit 3: Subtract Within 1,000 using Models and Strategies
23	Unit 3: Numbers to 1,000	28	Unit 3: Measuring Length
24	Unit 3:Add Within 1,000 using Models & Strategies	29	Unit 3: Measuring Length
25	Unit 3:Add Within 1,000 using Models & Strategies	30	Assess, Review, Reteach
Estimated Number of Weeks	**Marking Period 4 Unit 4: Measurement, Data & Geometry**		
31	Unit 4: More Addition, Subtraction & Length	36	Unit 4: Shapes & Their Attributes
32	Unit 4: More Addition, Subtraction & Length	37	Unit 4: Shapes & Their Attributes
33	Unit 4: Graphs and Data	38	iReady EOY
34	Unit 4: Graphs and Data	39	Step-Up to 3rd Grade
35	Unit 4: Shapes & Their Attributes	40	Step-Up to 3rd Grade

Overarching Goals

NJSLS Mathematical Practices (*addressed throughout each unit - specific practices are noted in the Stage 3 Learning Plan*

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

Unit 1: Addition Within 100: Fluency & Strategies

Stage 1 Desired Results

Unit 1: Addition Within 100: Fluency & Strategies

Unit Summary: In this unit, students will focus on addition and subtraction within 100 using strategies and algorithms. They will determine if numbers are even or odd and they will begin to develop computational fluency.

Unit Learning Targets

NJSLS Standards:

- 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.1
- 2.OA.B.2 With accuracy and efficiency, add and subtract within 20 using mental strategies. By end of grade 2, know from memory all sums of two one-digit numbers.
- 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 equation to express the total as a sum of equal addends.
- 2.OA.B.2 Fluently add and subtract within 20 using mental strategies.2 By end of Grade 2, know from memory all sums of two one-digit numbers.
- 2.NBT.B.5 With accuracy and efficiency, add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
- 2.NBT.B.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.
- 2.NBT.B.9 Explain why addition and subtraction strategies work, using place value and the properties of operations.

Interdisciplinary Connections

Career Readiness, Life Literacies, & Key Skills *:*

- 9.4.2.CT.3: Use a variety of types of thinking to solve problems
- 9.4.2.IML.4: Compare and contrast the way information is shared in a variety of contexts

Technology:

- 8.1.2.DA.1: Collect and present data, including climate change data, in various visual formats.
- 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks.
- 8.1.2.AP.4: Break down a task into a sequence of steps.

Interdisciplinary Connections:

- RI.CR.2.1. Ask and answer questions to demonstrate understanding of key details in an informational text, referring explicitly to the text as the basis for the answers.
- RI.MF.2.6. Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.

- W.IW.2.2. Write informative/explanatory texts to examine a topic and convey ideas and information.
- W.RW.2.7. Engage in both collaborative and independent writing tasks regularly, including extended and shorter time frames.

Unit Essential Questions:	**Unit Enduring Understandings:**
• What are strategies for finding addition and subtraction facts? • How can making groups of ten make counting easier? • What are strategies for adding and subtracting numbers to 100?	• There are different ways to add two digit numbers. Certain strategies may be better to use for a problem than others. • Computational fluency is the first step in efficient problem solving.
Students will know:	**Students will be able to:**
• equation, addends, sum, • doubles, near doubles, differences • even, odd, arrays, rows, columns, bar diagram • tens, ones, open number line, break apart, • mental math, compensation, partial sum • regroup, compatible numbers	• add and subtract within 20. • work with equal groups of objects to gain foundations for multiplication. • understand place value.

Stage 2 Assessment Evidence

Summative Assessments:

- End of Topic Performance Assessments - enVisionmath2.0, End of Topic Assessments - enVisionmath 2.0

Formative Assessments:

- Individual Lesson Quick Checks, Teacher observation & conferring, iReady, Khan Academy

Common Benchmark Assessments:

- iReady BOY diagnostic

Stage 3 Learning Plan

Standard	***Skill***	***Learning Activities & Differentiation*** *(Model Lesson Format)*	***Timeframe*** *(Days or Weeks)*
		Topics 1-4	*Days*
2.OA.B.2 *2.OA.A.1* *2.MP.1-8*	• Use counting on to add numbers and add numbers in any order. • Use doubles and near doubles to add quickly and accurately. • Use the strategy of making a ten to add quickly and accurately.	**Lesson Introduction - 80 minutes** **1 Lesson Per Day** • Solve & Share/ Visual Learning - 15-20 minutes • Guided Practice & Independent Practice - Quick Check - 15-20 minutes	10 + 2

	• Use number patterns on an addition facts table to compare related addition equations that show basic facts. • Count on and count back on a number line to subtract. • Think addition to subtract quickly and accurately. • Make 10 to subtract quickly and accurately. • Add and subtract quickly and accurately using mental math strategies. • Use addition and subtraction to solve word problems. • Use words, pictures, numbers and symbols to construct viable math arguments.	• Differentiated Centers (based on Independent Practice) - 15 -20 minutes ○ Intervention/Reteaching ○ On Grade Level ○ Advanced • Daily Common Core Review/iReady - 15 minutes (3 times per week) • Assign Homework/Transition - 5 minutes	(intro & assessment)
2.0A.C.3 *2.OA.B.2* *2.OA.C.4* *2.OA.A.1* *2.MP.1-8*	• Tell if a group of objects is even or odd. • Use different ways to tell if a group of objects shows an even or odd number. • Find the total number of objects in a set of rows and columns. • Make arrays with equal rows or equal columns to solve addition problems. • Model problems using equations, drawings, arrays, and bar diagrams.	**Lesson Introduction - 80 minutes** **1 Lesson Per Day** • Solve & Share/ Visual Learning - 15-20 minutes • Guided Practice & Independent Practice - Quick Check - 15-20 minutes • Differentiated Centers (based on Independent Practice) - 15 -20 minutes ○ Intervention/Reteaching ○ On Grade Level ○ Advanced • Daily Common Core Review/iReady - 15 minutes (3 times per week) • Assign Homework/Transition - 5 minutes	5 + 2 (intro & assessment)
2.NBT.B.5 *2.NBT.B.9* *2.NBT.B.6* *2.OA.A.1* *2.MP.1-8*	• Add within 100 using place value strategies and a hundreds chart. • Add tens to 2-digit numbers using an open number line. • Use an open number line to add tens and ones within 100. • Add within 100 using place value strategy. • Break apart numbers into tens and ones to find their sum. • Break apart addends and combine them in different ways to make numbers that are easy to add mentally. • Choose and use any strategy to add two-digit numbers. • Use drawings and equations to solve one-step and two-step problems.	**Lesson Introduction - 80 minutes** **1 Lesson Per Day** • Solve & Share/ Visual Learning - 15-20 minutes • Guided Practice & Independent Practice - Quick Check - 15-20 minutes • Differentiated Centers (based on Independent Practice) - 15 -20 minutes ○ Intervention/Reteaching ○ On Grade Level ○ Advanced	8 + 2 (intro & assessment)

	• Choose an appropriate tool and use it to solve a math problem.	• Daily Common Core Review/iReady - 15 minutes (3 times per week) • Assign Homework/Transition - 5 minutes	
2.NBT.B.5 *2.NBT.B.9* *2.NBT.B.6* *2.OA.A.1* *2.MP.1-8*	• Add using place value and partial sums. • Add numbers using partial sums. • Use models to add 2-digit numbers and then EXPLAIN the work. • Add 2 digit numbers and then explain the work. • Add three or four digit numbers. • Use mental math strategies and models to add more than 2 numbers. • Use drawings, models and equations to solve 1 and 2 step problems. • Make models to help solve math problems.	**Lesson Introduction - 80 minutes** **1 Lesson Per Day** • Solve & Share/ Visual Learning - 15-20 minutes • Guided Practice & Independent Practice - Quick Check - 15-20 minutes • Differentiated Centers (based on Independent Practice) - 15 -20 minutes ○ Intervention/Reteaching ○ On Grade Level ○ Advanced • Daily Common Core Review/iReady - 15 minutes (3 times per week) • Assign Homework/Transition - 5 minutes	8 + 2 (intro & assessment)

Core Instructional & Supplemental Materials (including various levels of texts)	
Texts/Materials	*Notes*
enVisionmath2.0 Common Core Grade 2	
chromebooks, iReady	
connecting cubes, counters, addition tables, number lines	
chart paper, sticky notes, place value blocks	
hundreds chart, open number line,	

Accommodations and Modifications:
Students with Disabilities, English Language Learners,
Students at Risk of Failure, Students with 504s, Gifted & Talented Students

Specific Strategies and Practices that Support Students with Disabilities:

Students receiving Special Education programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP) due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, the instruction is differentiated based upon the student's needs. The IEP acts as a supplemental curriculum guide inclusive of instructional strategies that support each learner.

- Provide additional manipulatives to support instruction
- Allow for alternative strategies to solve algorithms or tasks

- Provide the steps needed to complete the task
- Model frequently
- Use visuals to demonstrate/model the processes
- Visual Animation Plus
- Reteaching opportunities if applicable through differentiated centers
- Checklists - Immediate feedback

Specific Strategies and Practices that Support Gifted & Talented Students:

- Problem based learning
- Pre-Assess to condense curriculum in order to do more authentic problem solving/projects
- Differentiated centers with extension activities

Specific Strategies and Practices that Support English Language Learners:

- Develop basic vocabulary
- Demonstrate listening comprehension by retelling
- Use prior experience to understand meanings
- Visual learning bridge
- Visual learning Animation Plus
- Personal glossary
- Text-to-speech
- Extended time
- Simplified / verbal instructions

Specific Strategies and Practices that Support English Language Learners

English language learner (ELL) is a national-origin-minority student who is limited-English-proficient. This term is often preferred over limited-English-proficient (LEP) as it highlights accomplishments rather than deficits.

- Pre-teaching of vocabulary and concepts
- Personal Glossary
- Extended Time
- Simplified/Verbal Instructions
- Visual learning, including graphic organizers
- Use of cognates to increase comprehension
- Pairing students with beginning English language skills with students who have more advanced English language skills
- Scaffolding - Word walls - Think-pair-share - Cooperative learning groups

Students at Risk of Failure

- Home/School Connection
- Alternative Assessments
- Learning Contracts

- Homogeneous Grouping
- Supplemental Instruction
- Tiered Activities - Small Group Instruction
- Work Alone Choice - Group Work Choice

Students with 504 Plans

- Teachers are responsible for implementing designated services and strategies identified on a student's 504 Plan.
- 504 plans are formal plans that schools develop to give kids the support they need and covers any condition that limits daily activities in a major way.
- Students' accommodations are outlined in their individual 504 plan.

Specific Strategies and Practices that Support Gifted & Talented Students

It is critical that all teachers are able to recognize a high-ability student who may need more depth and complexity in instruction.

- Homogeneous Grouping - Small Group In-Depth Instruction
- Differentiated Online Practice - Alternative Assessments
- Pre-Assess to provide Differentiated Instruction to Accelerate Learning

Unit 2 : Subtraction Within 100: Fluency & Strategies & Problem Solving

Stage 1 Desired Results

Unit 2: Subtraction Within 100: Fluency & Strategies & Problem Solving

Unit Summary: In this unit, students will begin to develop computational fluency using the partial-sums method and begin to develop a foundation for the standard algorithm for addition and subtraction. Students will focus on solving problems using coins and bills, telling time to the nearest 5-minutes using a.m. and p.m., and telling time before and after the hour. Students will represent the numerical relationships in the word problems and will fluently add and subtract within 100 to find the solution.

Unit Learning Targets

NJSLS Standards:

- 2.M.C.7 Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
- 2.M.C.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?
- 2.NBT.A.2 Count within 1000; skip-count by 5s, 10s, and 100s.
- 2.NBT.B.5 With accuracy and efficiency, add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
- 2.NBT.B.9 Explain why addition and subtraction strategies work, using place value and the properties of operations.
- 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.

Interdisciplinary Connections

Career Readiness, Life Literacies, & Key Skills :
9.4.2.CT.3: Use a variety of types of thinking to solve problems
9.4.2.IML.4: Compare and contrast the way information is shared in a variety of contexts

Technology:
8.1.2.DA.1: Collect and present data, including climate change data, in various visual formats.
8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks.
8.1.2.AP.4: Break down a task into a sequence of steps.

Interdisciplinary Connections:
RI.CR.2.1. Ask and answer questions to demonstrate understanding of key details in an informational text, referring explicitly to the text as the basis for the answers.
RI.MF.2.6. Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
W.IW.2.2. Write informative/explanatory texts to examine a topic and convey ideas and information.
W.RW.2.7. Engage in both collaborative and independent writing tasks regularly, including extended and shorter time frames.

Unit Essential Questions:	**Unit Enduring Understandings:**
• What are strategies for adding numbers to 100? • What are strategies for subtracting numbers to 100? • How can you solve word problems that use adding and subtracting • Why is it important to understand time and money in real-life?	• There are different ways to add two digit numbers. Certain strategies may be better to use for a problem than others. • Computational fluency is the first step in efficient problem solving. • Telling time is a life skill. • Manipulating money (ex - making change) is a life skill.
Students will know:	**Students will be able to:**
• partial sum, regroup, compatible numbers • dime, nickel, penny, quarter, half-dollar • cents, dollar, dollar sign, dollar bills • greatest value, least value, tally marks • quarter past, half past, quarter to • a.m., p.m	• use place value understanding and properties of operations to add and subtract. • represent and solve problems involving addition and subtraction. • tell time to the nearest minute. • solve addition and subtraction problems involving elapsed time. • solve addition and subtraction problems involving money.

Stage 2 Assessment Evidence

Summative Assessments:
- End of Topic Performance Assessments - enVisionmath2.0
- End of Topic Assessments - enVisionmath 2.0

Formative Assessments:
- Individual Lesson Quick Checks
- Teacher observation & conferring
- iReady
- Khan Academy

Common Benchmark Assessments:
- iReady Mid-Year Assessment

Stage 3 Learning Plan

Standard	***Skill***	***Learning Activities & Differentiation*** *(Model Lesson Format)*	***Timeframe*** *(Days or Weeks)*
		Topics 5-8	*Days*
2.NBT.B.5 *2.NBT.B.9* *2.OA.A.1* *2.MP.1-8*	• Use a 100s chart to subtract tens and ones. • Use an open number line to subtract tens. • Use an open number line to subtract tens and ones. • Add up to subtract using an open number line. • Break apart 1-digit numbers to make it easier to subtract mentally. • Break apart 2-digit numbers to make it easier to subtract. • Make numbers that are easier to subtract (compensation) and use mental math to find the difference. • Solve 1 and 2 step problems using addition and subtraction. • Critique the thinking of others by using what is known about addition and subtraction.	**Lesson Introduction - 80 minutes** **1 Lesson Per Day** • Solve & Share/ Visual Learning - 15-20 minutes • Guided Practice & Independent Practice - Quick Check - 15-20 minutes • Differentiated Centers (based on Independent Practice) - 15 -20 minutes ○ Intervention/Reteaching ○ On Grade Level ○ Advanced • Daily Common Core Review/iReady - 15 minutes (3 times per week) • Assign Homework/Transition - 5 minutes	9 + 2 (intro & assessment)
2.NBT.B.5 *2.NBT.B.9* *2.OA.A.1* *2.MP.1-8*	• Exchange 1 ten for 10 ones. • Use place value and models to subtract 2 digit and 1 digit numbers. • Use place value and regrouping to subtract. • Use place value and models to subtract 2 digit numbers. • Use place value to subtract 2 digit numbers. • Add to check subtraction. • Subtract 2-digit numbers and decide when to regroup and when not to regroup. • Use models and equations to solve word problems. • Reason about word problems and use bar diagrams and equations to solve them.	**Lesson Introduction - 80 minutes** **1 Lesson Per Day** • Solve & Share/ Visual Learning - 15-20 minutes • Guided Practice & Independent Practice - Quick Check - 15-20 minutes • Differentiated Centers (based on Independent Practice) - 15 -20 minutes ○ Intervention/Reteaching ○ On Grade Level ○ Advanced • Daily Common Core Review/iReady - 15 minutes (3 times per week) • Assign Homework/Transition - 5 minutes	9 + 2 (intro & assessment)
2.OA.A.1 *2.MP.1-8*	• Model problems using equations with unknowns in any position. • Use drawings and equations to make sense of the words in problems. • Model and solve 2-step problems using equations.	**Lesson Introduction - 80 minutes** **1 Lesson Per Day** • Solve & Share/ Visual Learning - 15-20 minutes	6 +

	• Use different ways to solve 2-step problems. • Use reasoning to write and solve number stories.	• Guided Practice & Independent Practice - Quick Check - 15-20 minutes • Differentiated Centers (based on Independent Practice) - 15 -20 minutes ○ Intervention/Reteaching ○ On Grade Level ○ Advanced • Daily Common Core Review/iReady - 15 minutes (3 times per week) • Assign Homework/Transition - 5 minutes	2 (intro & assessment)
2.M.C.8 *2.NBT.A.2* *2.OA.A.1* *2.M.C.7* *2.MP.1-8*	• Solve problems with coins. • Solve problems with dollar bills and coins that model 100 cents. • Solve problems with dollar bills. • Reason about values of coins and dollar bills and find different ways to make the same total value. • Tell time to the nearest five minutes. • Say time in different ways. • Tell time and use reasoning to state if the event is happening in the a.m. or p.m.	**Lesson Introduction - 80 minutes** **1 Lesson Per Day** • Solve & Share/ Visual Learning - 15-20 minutes • Guided Practice & Independent Practice - Quick Check - 15-20 minutes • Differentiated Centers (based on Independent Practice) - 15 -20 minutes ○ Intervention/Reteaching ○ On Grade Level ○ Advanced • Daily Common Core Review/iReady - 15 minutes (3 times per week) • Assign Homework/Transition - 5 minutes	8 + 2 (intro & assessment)

Core Instructional & Supplemental Materials (including various levels of texts)	
Texts/Materials	*Notes*
enVisionmath2.0 Common Core Grade 2, demonstration clock, blank clock	
iReady, Chromebooks, comparison bar diagrams, coins, 1$ bills, analog, digital clock	
hundreds chart, open number lines	
break apart teaching tool, compensation strategies tchg tool	
bar diagrams, place value blocks & mat,	
tens & ones chart, connecting cubes, number cubes	
centimeter grid paper, index cards	

Accommodations and Modifications:

Students with Disabilities, English Language Learners, Students at Risk of Failure, Students with 504s, Gifted & Talented Students

Specific Strategies and Practices that Support Students with Disabilities:

Students receiving Special Education programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP) due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, the instruction is differentiated based upon the student's needs. The IEP acts as a supplemental curriculum guide inclusive of instructional strategies that support each learner.

- Provide additional manipulatives to support instruction
- Allow for alternative strategies to solve algorithms or tasks
- Provide the steps needed to complete the task
- Model frequently
- Use visuals to demonstrate/model the processes
- Visual Animation Plus
- Reteaching opportunities if applicable through differentiated centers
- Checklists - Immediate feedback

Specific Strategies and Practices that Support Gifted & Talented Students:

- Problem based learning
- Pre-Assess to condense curriculum in order to do more authentic problem solving/projects
- Differentiated centers with extension activities

Specific Strategies and Practices that Support English Language Learners:

- Develop basic vocabulary
- Demonstrate listening comprehension by retelling
- Use prior experience to understand meanings
- Visual learning bridge
- Visual learning Animation Plus
- Personal glossary
- Text-to-speech
- Extended time
- Simplified / verbal instructions

Specific Strategies and Practices that Support English Language Learners

English language learner (ELL) is a national-origin-minority student who is limited-English-proficient. This term is often preferred over limited-English-proficient (LEP) as it highlights accomplishments rather than deficits.

- Pre-teaching of vocabulary and concepts
- Personal Glossary

- Extended Time
- Simplified/Verbal Instructions
- Visual learning, including graphic organizers
- Use of cognates to increase comprehension
- Pairing students with beginning English language skills with students who have more advanced English language skills
- Scaffolding - Word walls - Think-pair-share - Cooperative learning groups

Students at Risk of Failure

- Home/School Connection
- Alternative Assessments
- Learning Contracts
- Homogeneous Grouping
- Supplemental Instruction
- Tiered Activities - Small Group Instruction
- Work Alone Choice - Group Work Choice

Students with 504 Plans

- Teachers are responsible for implementing designated services and strategies identified on a student's 504 Plan.
- 504 plans are formal plans that schools develop to give kids the support they need and covers any condition that limits daily activities in a major way.
- Students' accommodations are outlined in their individual 504 plan.

Specific Strategies and Practices that Support Gifted & Talented Students

It is critical that all teachers are able to recognize a high-ability student who may need more depth and complexity in instruction.

- Homogeneous Grouping - Small Group In-Depth Instruction
- Differentiated Online Practice - Alternative Assessments
- Pre-Assess to provide Differentiated Instruction to Accelerate Learning

Unit 3: Addition & Subtraction within 1,000 & Measurement

Stage 1 Desired Results

Unit 3: Addition & Subtraction within 1,000 & Measurement

Unit Summary: In this unit students will focus on expanding their understanding of addition and subtraction to 3-digit numbers using models and strategies. Students will explain why addition and subtraction strategies work using place value and properties of operations. In addition, will use appropriate tools to estimate and measure length in customary and metric units. Students will use everyday objects to estimate the length of another object to the nearest unit.

Unit Learning Targets

NJSLS Standards:

- 2.M.A.1 Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
- 2.M.A.2 Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
- 2.M.A.3 Estimate lengths using units of inches, feet, centimeters, and meters.
- 2.M.A.4 Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.
- 2.M.B.5 Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
- 2.NBT.A.1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:
    - a. 100 can be thought of as a bundle of ten tens - called a “hundred.”
    - b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
- 2.NBT.A.2 Count within 1000; skip-count by 5s, 10s, and 100s.
- 2.NBT.A.3 Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
- 2.NBT.A.4 Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.
- 2.NBT.B.7 Add and subtract within 1,000, using concrete models or drawings and strategies based on place value, properties of operations, and or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
- 2.NBT.B.8 Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
- 2.NBT.B.9 Explain why addition and subtraction strategies work, using place value and the properties of operations.

Interdisciplinary Connections

Career Readiness, Life Literacies, & Key Skills *:*

- 9.4.2.CT.3: Use a variety of types of thinking to solve problems

- 9.4.2.IML.4: Compare and contrast the way information is shared in a variety of contexts

Technology:

- 8.1.2.DA.1: Collect and present data, including climate change data, in various visual formats.
- 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks.
- 8.1.2.AP.4: Break down a task into a sequence of steps.

Interdisciplinary Connections:

- RI.CR.2.1. Ask and answer questions to demonstrate understanding of key details in an informational text, referring explicitly to the text as the basis for the answers.
- RI.MF.2.6. Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
- W.IW.2.2. Write informative/explanatory texts to examine a topic and convey ideas and information.
- W.RW.2.7. Engage in both collaborative and independent writing tasks regularly, including extended and shorter time frames.

Unit Essential Questions:

- How can you count, read, and show numbers to 1,000?
- What are strategies for adding and subtracting numbers to 1,000?
- How does knowing, "When measuring length, the longer the chosen unit, the fewer the units are needed; the shorter the unit, the more units are needed" help with measuring length?
- What are ways to measure length?

Unit Enduring Understandings:

- Lengths of objects can be estimated using another object with a known length.
- There are different ways to add three-digit numbers. Certain strategies may be better to use for a problem than others.
- Good math thinkers know how to pick the right tools to solve math problems.

Students will know:

- hundred, thousand
- digit, place-value chart
- standard-form, expanded form, word form
- compare, greater than >, less than <, equals
- decrease, increase
- estimate, inch, foot, yard
- height, nearest inch
- centimeter, nearest centimeter, meter

Students will be able to:

- compare three digit numbers using <, > or =.
- add 3 digit numbers using models & strategies.
- use place value understanding and properties of operations to add and subtract.
- measure and estimate lengths in standard and metric units.
- relate addition and subtraction to length.

Stage 2 Assessment Evidence

Summative Assessments:

- End of Topic Performance Assessments - enVisionmath2.0

- End of Topic Assessments - enVisionmath 2.0

Formative Assessments:

- Individual Lesson Quick Checks
- Teacher observation & conferring
- iReady
- Khan Academy

Stage 3 Learning Plan

Standard *(Number only)*	***Skill***	***Learning Activities & Differentiation*** *(Model Lesson Format)*	***Timeframe*** *(Days or Weeks)*
		Topics 9-12	*Days*
2.NBT.A.1a *2.NBT.A.1b* *2.NBT.A.3* *2.NBT.A.2* *2.NBT.B.8* *2.NBT.A.4* *2.MP.1-8*	• Understand place value and count by hundreds to 1,000. • Use place-value blocks and drawings to model and write 3-digit numbers. • Tell the value of a digit by where it's placed in a number. • Read and write 3-digit numbers in expanded form, standard form and word form. • Make and name a number in different ways to show the same value. • Use place-value patterns to mentally count by 1s and 10s from a given number. • Skip count by 5s, 10s and 1--s using a number line. • Compare numbers using place value. • Compare and write a 3-digit number that is greater than or less than another 3-digit number. • Look for patterns to help when solving problems.	**Lesson Introduction - 80 minutes** **1 Lesson Per Day** • Solve & Share/ Visual Learning - 15-20 minutes • Guided Practice & Independent Practice - Quick Check - 15-20 minutes • Differentiated Centers (based on Independent Practice) - 15 -20 minutes ○ Intervention/Reteaching ○ On Grade Level ○ Advanced • Daily Common Core Review/iReady - 15 minutes (3 times per week) • Assign Homework/Transition - 5 minutes	10 + 2 (intro & assessment)
2.NBT.B.8 *2.NBT.B.9* *2.NBT.B.7* *2.MP.1-8*	• Add 10 or 100 mentally using place value. • Use an open number line to add 3-digit numbers. • Add 3-digit numbers using mental math strategies. • Add 3-digit numbers using partial sums. • Use models to add 3-digit numbers. • Use different addition strategies and explain why they work. • Think about and check my work as I solve a problem.	**Lesson Introduction - 80 minutes** **1 Lesson Per Day** • Solve & Share/ Visual Learning - 15-20 minutes • Guided Practice & Independent Practice - Quick Check - 15-20 minutes • Differentiated Centers (based on Independent Practice) - 15 -20 minutes	7 + 2 (intro & assessment)

		○ Intervention/Reteaching ○ On Grade Level ○ Advanced • Daily Common Core Review/iReady - 15 minutes (3 times per week) • Assign Homework/Transition - 5 minutes	
2.NBT.B.8 *2.NBT.B.9* *2.NBT.B.7* *2.MP.1-8*	• Subtract 10 or 100 mentally using place-value strategies. • Use an open number line to count back to subtract 3-digit numbers. • Use an open number line to add up to subtract 3-digit numbers. • Use mental math to subtract. • Use models to subtract 3 digit numbers. • Explain why subtraction strategies work using models, place value and mental math. • Solve problems that take more than one step.	**Lesson Introduction - 80 minutes** **1 Lesson Per Day** • Solve & Share/ Visual Learning - 15-20 minutes • Guided Practice & Independent Practice - Quick Check - 15-20 minutes • Differentiated Centers (based on Independent Practice) - 15 -20 minutes ○ Intervention/Reteaching ○ On Grade Level ○ Advanced • Daily Common Core Review/iReady - 15 minutes (3 times per week) • Assign Homework/Transition - 5 minutes	7 + 2 (intro & assessment)
2.M.A.3 *2.M.A.1* *2.M.A.2* *2.M.A.4* *2.M.B.5* *2.MP.1-8*	• Estimate the length of an object by relating the length of the object to a measurement I know. • Estimate measures and use a ruler to measure length and height to the nearest inch. • Estimate measures and use tools to measure the length and height of objects to the nearest inch, food and yard. • Estimate and measure the length and height of objects in inches, feet and yards. • Estimate measures and use a ruler to measure length and height to the nearest centimeter. • Estimate measures and use a ruler, meter stick, or tape measure to measure length and height to the nearest centimeter or meter. • Measure the length and height of objects using different metric units. • Tell how much longer one object is than another.	**Lesson Introduction - 80 minutes** **1 Lesson Per Day** • Solve & Share/ Visual Learning - 15-20 minutes • Guided Practice & Independent Practice - Quick Check - 15-20 minutes • Differentiated Centers (based on Independent Practice) - 15 -20 minutes ○ Intervention/Reteaching ○ On Grade Level ○ Advanced • Daily Common Core Review/iReady - 15 minutes (3 times per week) • Assign Homework/Transition - 5 minutes	9 + 2 (intro & assessment)

	• Choose tools, units and methods that help me be precise when I measure.		

Core Instructional & Supplemental Materials (including various levels of texts)	
Texts/Materials	*Notes*
enVisionmath2.0 Common Core Grade 2	
chromebooks, iReady	
place value blocks, mats & charts, blank hundred chart	
open & regular number lines, spinner, connecting cubes	
colored pencils, index cards, post it notes	
3 digit addition & subtraction guides	
1-inch objects, 1 foot objects, paper clip, book, yardsticks	
number cards, 1-inch rulers, measuring tapes, 1 inch squares	
Centimeter ruler, meter sticks, counters	

Accommodations and Modifications:
Students with Disabilities, English Language Learners,
Students at Risk of Failure, Students with 504s, Gifted & Talented Students

Specific Strategies and Practices that Support Students with Disabilities:

Students receiving Special Education programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP) due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, the instruction is differentiated based upon the student's needs. The IEP acts as a supplemental curriculum guide inclusive of instructional strategies that support each learner.

- Provide additional manipulatives to support instruction
- Allow for alternative strategies to solve algorithms or tasks
- Provide the steps needed to complete the task
- Model frequently
- Use visuals to demonstrate/model the processes
- Visual Animation Plus
- Reteaching opportunities if applicable through differentiated centers
- Checklists - Immediate feedback

Specific Strategies and Practices that Support Gifted & Talented Students:

- Problem based learning
- Pre-Assess to condense curriculum in order to do more authentic problem solving/projects

- Differentiated centers with extension activities

Specific Strategies and Practices that Support English Language Learners:

- Develop basic vocabulary
- Demonstrate listening comprehension by retelling
- Use prior experience to understand meanings
- Visual learning bridge
- Visual learning Animation Plus
- Personal glossary
- Text-to-speech
- Extended time
- Simplified / verbal instructions

Specific Strategies and Practices that Support English Language Learners

English language learner (ELL) is a national-origin-minority student who is limited-English-proficient. This term is often preferred over limited-English-proficient (LEP) as it highlights accomplishments rather than deficits.

- Pre-teaching of vocabulary and concepts
- Personal Glossary
- Extended Time
- Simplified/Verbal Instructions
- Visual learning, including graphic organizers
- Use of cognates to increase comprehension
- Pairing students with beginning English language skills with students who have more advanced English language skills
- Scaffolding - Word walls - Think-pair-share - Cooperative learning groups

Students at Risk of Failure

- Home/School Connection
- Alternative Assessments
- Learning Contracts
- Homogeneous Grouping
- Supplemental Instruction
- Tiered Activities - Small Group Instruction
- Work Alone Choice - Group Work Choice

Students with 504 Plans

- Teachers are responsible for implementing designated services and strategies identified on a student's 504 Plan.
- 504 plans are formal plans that schools develop to give kids the support they need and covers any condition that limits daily activities in a major way.
- Students' accommodations are outlined in their individual 504 plan.

Specific Strategies and Practices that Support Gifted & Talented Students

It is critical that all teachers are able to recognize a high-ability student who may need more depth and complexity in instruction.

- Homogeneous Grouping - Small Group In-Depth Instruction
- Differentiated Online Practice - Alternative Assessments
- Pre-Assess to provide Differentiated Instruction to Accelerate Learning

Unit 4: Measurement, Data & Geometry

Stage 1 Desired Results

Unit 4: Measurement, Data & Geometry

Unit Summary: In this unit, students will draw pictures and equations to solve word problems involving measurement Students will collect, represent, and interpret data. Students will practice their measurement skills to generate measurement data. Finally, students will investigate attributes of shapes and use them to identify and draw triangles, quadrilaterals, pentagons, hexagons, and cubes.

Unit Learning Targets

NJSLS Standards:

- 2.M.B.5 Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
- 2.M.B.6 Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.
- 2.DL.B.3 Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.
- 2.DL.B.4 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 problems4 using information presented in a bar graph.
- 2.G.A.1 Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.5 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
- 2.G.A.2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
- 2.G.A.3 Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape. For example, students partition a rectangle (i.e., the whole) into three equal shares, identify each of the shares as a “third” and describe the rectangle as three “thirds”
- 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.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 equation to express the total as a sum of equal addends.
- 2.DL.A.1 Understand that people collect data to answer questions. Understand that data can vary.
- 2.DL.A.2 Identify what could count as data (e.g., visuals, sounds, numbers).

Interdisciplinary Connections

Career Readiness, Life Literacies, & Key Skills *:*

- 9.4.2.CT.3: Use a variety of types of thinking to solve problems
- 9.4.2.IML.4: Compare and contrast the way information is shared in a variety of contexts

Technology:

- 8.1.2.DA.1: Collect and present data, including climate change data, in various visual formats.
- 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks.
- 8.1.2.AP.4: Break down a task into a sequence of steps.

Interdisciplinary Connections:

- RI.CR.2.1. Ask and answer questions to demonstrate understanding of key details in an informational text, referring explicitly to the text as the basis for the answers.
- RI.MF.2.6. Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
- W.IW.2.2. Write informative/explanatory texts to examine a topic and convey ideas and information.
- W.RW.2.7. Engage in both collaborative and independent writing tasks regularly, including extended and shorter time frames.

Unit Essential Questions:

- How can line plots, bar graphs, and pictographs tell a story?
- How can line plots, bar graphs, and pictographs be used to compare information?
- How can lines and shapes be described, compared, and broken into parts?
- How can the data people collect vary?
- How can data be organized and represented to provide insight into the relationship between quantities?

Unit Enduring Understandings:

- Measurements of the same unit (ex - feet, meters) can be added or subtracted in the same way we add or subtract numbers.
- Pictures and equations can be used to solve problems.
- Different types of data can be displayed on different types of graphs.
- 2-D and 3-D shapes can be classified by their attributes.

Students will know:

- data, line plot, bar graph
- symbol, picture graph
- vertices
- quadrilaterals, pentagons, hexagons, polygon
- angle, right angle
- cube, face, edge
- equal shares, halves, thirds, fourths

Students will be able to:

- relate addition and subtraction to length.
- represent and interpret data.
- reason with shapes and attributes.
- ask questions, analyze statistical data and understand its implications

Stage 2 Assessment Evidence

Summative Assessments:

- End of Topic Performance Assessments - enVisionmath2.0
- End of Topic Assessments - enVisionmath 2.0
- Data Literacy District Assessment

Formative Assessments:

- Individual Lesson Quick Checks

- Teacher observation & conferring
- iReady
- Khan Academy

Common Benchmark Assessments:

- iReady EOY assessment

Stage 3 Learning Plan

Standard *(Number only)*	***Skill***	***Learning Activities & Differentiation*** *(Model Lesson Format)*	***Timeframe*** *(Days or Weeks)*
		Topics 13-15	*Days*
2.M.B.5 *2.OA.A.1* *2.M.B.6* *2.MP.1-8*	• Solve problems by adding or subtracting length measurements. • Add or subtract to solve problems about measurements. • Add and subtract to solve measurement problems by using drawings and equations. • Add and subtract on a number line. • Choose the best tool to use to solve problems.	**Lesson Introduction - 80 minutes** **1 Lesson Per Day** • Solve & Share/ Visual Learning - 15-20 minutes • Guided Practice & Independent Practice - Quick Check - 15-20 minutes • Differentiated Centers (based on Independent Practice) - 15 -20 minutes ○ Intervention/Reteaching ○ On Grade Level ○ Advanced • Daily Common Core Review/iReady - 15 minutes (3 times per week) • Assign Homework/Transition - 5 minutes	5 + 2 (intro & assessment)
2.DL.B.3 *2.M.A.1* *2.DL.B.4* *2.OA.A.1* *2.MP.1-8*	• Measure the lengths of objects and make a line plot to organize the data. • Draw bar graphs and use them to solve problems. • Draw picture graphs and use them to solve problems. • Draw conclusions from graphs. • Reason about data in bar graphs and picture graphs to write and solve problems.	**Lesson Introduction - 80 minutes** **1 Lesson Per Day** • Solve & Share/ Visual Learning - 15-20 minutes • Guided Practice & Independent Practice - Quick Check - 15-20 minutes • Differentiated Centers (based on Independent Practice) - 15 -20 minutes ○ Intervention/Reteaching ○ On Grade Level	6 + 2 (intro & assessment)

		○ Advanced • Daily Common Core Review/iReady - 15 minutes (3 times per week) • Assign Homework/Transition - 5 minutes	
2.DL.A.1 2.DL.A.2	• collect data in different ways • analyze how • create		
2.G.A.1 *2.G.A.2* *2.OA.C.4* *2.G.A.3* *2.MP.1-8*	• Recognize shapes by how they look. • Describe plane shapes by how they look. • Draw polygon shapes. • Draw cubes and describe how they look. • Divide rectangles into rows and columns of equal size squares. • Divide circles and rectangles into halves, thirds and fourths. • Make equal shares that do not have the same shape. • Use repeated reasoning to divide rectangles into rows and columns and to create designs with equal shares.	**Lesson Introduction - 80 minutes** **1 Lesson Per Day** • Solve & Share/ Visual Learning - 15-20 minutes • Guided Practice & Independent Practice - Quick Check - 15-20 minutes • Differentiated Centers (based on Independent Practice) - 15 -20 minutes ○ Intervention/Reteaching ○ On Grade Level ○ Advanced • Daily Common Core Review/iReady - 15 minutes (3 times per week) • Assign Homework/Transition - 5 minutes	6 + 2 (intro & assessment)

Core Instructional & Supplemental Materials (including various levels of texts)	
Texts/Materials	*Notes*
enVisionmath2.0 Common Core Grade 2	
chromebooks, iReady,pattern blocks, solid figures	
inch rulers, centimeter rulers, square or rectangular objects	
blank rulers, centimeter cubes, number lines	
yarn, index cards, post its, yardstick, connecting cubes, counters	
blank table, tally chart, picture graph, line plot & bar graph	
plane shapes, toothpicks, centimeter grid paper, straws	

Accommodations and Modifications:
Students with Disabilities, English Language Learners,
Students at Risk of Failure, Students with 504s, Gifted & Talented Students

Specific Strategies and Practices that Support Students with Disabilities:

Students receiving Special Education programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP) due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, the instruction is differentiated based upon the student's needs. The IEP acts as a supplemental curriculum guide inclusive of instructional strategies that support each learner.

- Provide additional manipulatives to support instruction
- Allow for alternative strategies to solve algorithms or tasks
- Provide the steps needed to complete the task
- Model frequently
- Use visuals to demonstrate/model the processes
- Visual Animation Plus
- Reteaching opportunities if applicable through differentiated centers
- Checklists - Immediate feedback

Specific Strategies and Practices that Support Gifted & Talented Students:

- Problem based learning
- Pre-Assess to condense curriculum in order to do more authentic problem solving/projects
- Differentiated centers with extension activities

Specific Strategies and Practices that Support English Language Learners:

- Develop basic vocabulary
- Demonstrate listening comprehension by retelling
- Use prior experience to understand meanings
- Visual learning bridge
- Visual learning Animation Plus
- Personal glossary
- Text-to-speech
- Extended time
- Simplified / verbal instructions

Specific Strategies and Practices that Support English Language Learners

English language learner (ELL) is a national-origin-minority student who is limited-English-proficient. This term is often preferred over limited-English-proficient (LEP) as it highlights accomplishments rather than deficits.

- Pre-teaching of vocabulary and concepts
- Personal Glossary
- Extended Time
- Simplified/Verbal Instructions
- Visual learning, including graphic organizers

- Use of cognates to increase comprehension
- Pairing students with beginning English language skills with students who have more advanced English language skills
- Scaffolding - Word walls - Think-pair-share - Cooperative learning groups

Students at Risk of Failure

- Home/School Connection
- Alternative Assessments
- Learning Contracts
- Homogeneous Grouping
- Supplemental Instruction
- Tiered Activities - Small Group Instruction
- Work Alone Choice - Group Work Choice

Students with 504 Plans

- Teachers are responsible for implementing designated services and strategies identified on a student's 504 Plan.
- 504 plans are formal plans that schools develop to give kids the support they need and covers any condition that limits daily activities in a major way.
- Students' accommodations are outlined in their individual 504 plan.

Specific Strategies and Practices that Support Gifted & Talented Students

It is critical that all teachers are able to recognize a high-ability student who may need more depth and complexity in instruction.

- Homogeneous Grouping - Small Group In-Depth Instruction
- Differentiated Online Practice - Alternative Assessments
- Pre-Assess to provide Differentiated Instruction to Accelerate Learning