Hainesport Township School District
211 Broad Street Hainesport, NJ 08036

Course Title: Math Grade 2
Board of Education Adoption Date: 8/23/2012
Board of Education Re-adoption Date: 8/28/2018, 1/2/2024

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Course Description and Concepts

In Grade 2, instructional time should focus on four critical areas: extending understanding of base-ten notation; building fluency with addition and subtraction; using standard units of measure; and describing and analyzing shapes.

Students extend their understanding of the base-ten system. This includes ideas of counting in fives, tens, and multiples of hundreds, tens, and ones, as well as number relationships involving these units, including comparing. Students understand multi-digit numbers (up to 1000) written in base-ten notation, recognizing that the digits in each place represent amounts of thousands, hundreds, tens, or ones (e.g., 853 is 8 hundreds + 5 tens + 3 ones).

Students use their understanding of addition to develop fluency with addition and subtraction within 100. They solve problems within 1000 by applying their understanding of models for addition and subtraction, and they develop, discuss, and use efficient, accurate, and generalizable methods to compute sums and differences of whole numbers in base-ten notation, using their understanding of place value and the properties of operations. They select and accurately apply methods that are appropriate for the context and the numbers involved to mentally calculate sums and differences for numbers with only tens or only hundreds.

Students recognize the need for standard units of measure (centimeter and inch) and they use rulers and other measurement tools with the understanding that linear measure involves an iteration of units. They recognize that the smaller the unit, the more iterations they need to cover a given length.
Students describe and analyze shapes by examining their sides and angles. Students investigate, describe, and reason about decomposing and combining shapes to make other shapes. Through building, drawing, and analyzing two- and three-dimensional shapes, students develop a foundation for understanding area, volume, congruence, similarity, and symmetry in later grades.

New Jersey Student Learning Standards Math

New Jersey Student Learning Standards for Mathematics

NJ Technology Standards

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

8.2 Technology Education, Engineering, Design and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

Career Ready Practices

Career Ready Practices describe the career-ready skills that all educators in all content areas should seek to develop in their students. They are practices that have been linked to increase college, career, and life success. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

CRP1. Act as a responsible and contributing citizen and employee.
CRP2. Apply appropriate academic and technical skills.
CRP3. Attend to personal health and financial well-being.
CRP4. Communicate clearly and effectively and with reason.
CRP5. Consider the environmental, social and economic impacts of decisions.
CRP6. Demonstrate creativity and innovation.
CRP7. Employ valid and reliable research strategies.
CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
CRP9. Model integrity, ethical leadership and effective management.
CRP10. Plan education and career paths aligned to personal goals.
CRP11. Use technology to enhance productivity.
CRP12. Work productively in teams while using cultural global competence.

http://www.state.nj.us/education/cccs/2014/career/CareerReadyPractices.pdf

Pacing Guide

Unit Topic	Unit #	APX Unit Length
Add and Subtract within 100 and Understand Place Value to 1000	I	45 Days
Place Value Strategies for Addition and Subtraction	II	45 Days
Measurement	III	45 Days
Reason with Shapes and Represent Data	IV	45 Days

Curricular Framework

Overview	**Standards for Mathematical Content**	**Unit Focus**	**Standards for Mathematical Practice**

Unit 1 **Add and Subtract within 100 and Understand Place Value to 1000**	• 2.OA.A.1* • 2.OA.B.2* • 2.NBT.A.1 • 2.NBT.A.2* • 2.NBT.A.3 • 2.NBT.A.4 • 2.NBT.B.8	• Represent and solve problems involving addition and subtraction • Add and subtract within 20 • Understand place value • Use place value understanding and properties of operations to add and subtract	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics.
Unit 1: ***Suggested Open Educational Resources***	2.OA.A.1 Pencil and a Sticker 2.OA.B.2 Building toward fluency 2.NBT.A.1 Making 124 2.NBT.A.1 Largest Number Game 2.NBT.A.3 Looking at Numbers Every Which Way 2.NBT.A.4 Ordering 3-digit numbers 2.NBT.B.8 Choral Counting		
Unit 2 **Place Value Strategies for**	• 2.OA.A.1* • 2.OA.B.2* • 2.OA.C.3 • 2.OA.C.4 • 2.G.A.2 • 2.NBT.B.5* • 2.NBT.B.6	• Represent and solve problems involving addition and subtraction • Add and subtract within 20	

Addition and Subtraction	• 2.NBT.B.7 • 2.NBT.B.9 • 2.NBT.A.2*	• Work with equal groups of objects to gain foundations for multiplication • Reason with shapes and their attribute • Use place value understanding and properties of operations to add and subtract • Understand place value	MP.5 Use appropriate tools strategically. MP.6 Attend to precision.
Unit 2: ***Suggested Open Educational Resources***	2.OA.B.2 Hitting the Target Number 2.OA.C.3 Red and Blue Tiles 2.OA.C.4 Counting Dots in Arrays 2.G.A.2 Partitioning a Rectangle into Unit Squares 2.NBT.B.6 Toll Bridge Puzzle 2.NBT.B.7 How Many Days Until Summer Vacation? 2.NBT.B.9 Peyton and Presley Discuss Addition		MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.

Unit 3 **Measurement**	• 2.MD.A.1 • 2.MD.A.3 • 2.MD.A.2 • 2.MD.A.4 • 2.MD.B.5 • 2.MD.B.6 • 2.MD.C.7 • 2.NBT.A.2* • 2.NBT.B.5*	• Measure and estimate lengths in standard units • Relate addition and subtraction to length • Work with time • Understand place value • Use place value understanding and properties of operations to add and subtract	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically.
Unit 3: ***Suggested Open Educational Resources***	2.MD.A.1,3,4 Determining Length 2.MD.B.5 High Jump Competition 2.MD.B.6 Frog and Toad on the Number Line 2.MD.C.7 Ordering Time		
Unit 4 **Reason with Shapes and Represent Data**	• 2.G.A.1 • 2.G.A.3 • 2.MD.C.8 • 2.MD.D.9 • 2.MD.D.10 • 2.OA.B.2* • 2.NBT.B.5*	• Reason with shapes and their attributes • Work with money • Represent and interpret data • Add and subtract within 20 • Use place value understanding and properties of operations to add and subtract	

Unit 4: ***Suggested Open Educational Resources***	2.MD.C.8 Delayed Gratification 2.MD.D.9 Hand Span Measures 2.MD.D.9 The Longest Walk 2.MD.D.10 Favorite Ice Cream Flavor 2.NBT.B.5 Saving Money 1 2.NBT.B.5 Saving Money 2	MP.6 Attend to precision. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.

Unit 1 Grade 2		
Content Standards	**Suggested Standards for Mathematical Practice**	**Critical Knowledge & Skills**
• 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	MP.1 Make sense of problems and persevere in solving them. MP 2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others.	Concept(s): No new concept(s) introduced Students are able to: • count on and put together to add to solve one- and two-step word problems. • take from or take apart to subtract to solve one- and two-step word problems. • use drawings and equations to represent the problem.

to represent the problem. *(benchmarked)	MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.8 Look for and express regularity in repeated reasoning.	Learning Goal 1: Add and subtract <u>within 20</u> to solve 1- and 2-step word problems with unknowns in any position.
● 2.OA.B.2. Fluently add and subtract within 20 using mental strategies. *end of Grade 2, know from memory all sums of two one-digit numbers.* *(benchmarked)	MP 2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): No new concept(s) introduced Students are able to: ● add <u>within 10</u> using mental strategies with accuracy and efficiency. ● subtract <u>within 10</u> using mental strategies with accuracy and efficiency. Learning Goal 2: Fluently add and subtract <u>within 10</u> using mental strategies.
● 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: 2.NBT.A.1.a. 100 can be thought of as a bundle of ten tens — called a "hundred." 2.NBT.A.1.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).	MP 2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): ● 100 can be thought of as a bundle of ten tens — called a *hundred.* ● 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*). Students are able to: ● represent 100 as a bundle of ten *tens*. ● represent the number of *hundreds*, *tens*, and *ones* in a 3-digit number. Learning Goal 3: Represent a 3-digit number as specific amounts of *hundreds*, *tens*, and *ones.*

		Learning Goal 4: Identify ten *tens* as 100 and represent two hundred, three hundred, … nine hundred with 2, 3, …, 9 hundred bundles (with zero *tens* and zero *ones*).
● 2.NBT.A.2. Count within 1000; skip-count by 5s, 10s, and 100s. *(benchmarked)	MP 2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): No new concept(s) introduced Students are able to: ● count by fives within 1000. ● count by tens within 1000. ● count by hundreds within 1000. Learning Goal 5: Skip count by 5s and 10s up to 100...beginning at any multiple of 5.
● 2.NBT.A.3. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	MP 2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): ● Expanded form Students are able to: ● read numbers to 1000 written using base-ten numerals. ● read number names to 1000. ● read numbers to 1000 written in expanded form. ● write numbers to 1000 using base-ten numerals, number names, and expanded form. Learning Goal 6: Read numbers to 1000 using base-ten numerals, number names, and expanded form. Learning Goal 7: 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.	MP 2 Reason abstractly and quantitatively. MP.6 Attend to precision. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): ● Place value Students are able to: ● use the number of the hundreds, tens and/or ones digits to compare two three-digit numbers. ● write the results of the comparison using >, =, or <. Learning Goal 8: Use symbols >, =, < to record the results of comparing two 3-digit numbers by decomposing the number into a number (100s, 10s, and 1s).
● 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.	MP 2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): ● Place value Students are able to: ● Mentally add 10 or 100 from any given number between 100 and 900. ● Mentally subtract 10 or 100 from any given number between 100 and 900. Learning Goal 9: Mentally add or subtract 10 or 100 from any given number between 100 and 900.

Unit 1 Overview (Add and Subtract within 100 and Understand Place Value to 1000)

Content Area	Mathematics
Unit Title	Add and Subtract within 100 and Understand Place Value to 1000
Grade Level	Grade 2
Recommended Pacing	APX: 40-45 Days
Unit Summary	In this unit of study students will In this unit of study students will work with equal groups of objects to gain foundations for multiplication, understand place value, use place value understanding and properties of operations to add and subtract, represent and solve problems involving addition and subtraction, add and subtract within 20 and work with equal groups of objects to gain foundations for multiplication.
Interdisciplinary Connections	Primary Interdisciplinary Connections: Science, ELA
21st Century Themes/Career Ready Practices ● Communicating with students ● Using questioning and discussion techniques ● Engaging students in learning ● Using assessment in instruction ● Demonstrating Flexibility and Responsiveness	CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason. CRP5. Consider the environmental, social and economic impacts of decisions. CRP6. Demonstrate creativity and innovation. CRP7. Employ valid and reliable research strategies. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP11. Use technology to enhance productivity. CRP12. Work productively in teams while using cultural global competence.
Core Instructional Materials	enVisions Math Pearson Realize IXL GSuite for Education Projector Internet resources Activity handouts from the teacher Presentations via technology including educational videos on Safari and youtube.com · Subject

	software Internet resources Presentations via technology, including documentaries and videos from Safari, youtube.com and teacher-created materials.

Standard(s)/Mathematical Concepts
Mathematical Practice Standards: ● MP1: Make sense of problems and persevere in solving them. ● MP2: Reason abstractly and quantitatively ● MP3: Construct viable arguments and critique the reasoning of others. ● MP4: Model with mathematics. ● MP5: Use appropriate tools strategically. ● MP6: Attend to precision. ● MP7: Look for and make use of structure. ● MP8: Look for and express regularity in repeated reasoning. Technology Standards: ● 8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.Assess the credibility and accuracy of digital content. ● 8.2 Technology Education, Engineering, Design and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

Progress Indicator(s) #	**Progress Indicator Defined**
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. *(benchmarked)
2.OA.B.2.	Fluently add and subtract within 20 using mental strategies. *By end of Grade 2, know from memory all sums of two one-digit numbers.* *(benchmarked)
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
2.NBT.A.1.a.	100 can be thought of as a bundle of ten tens — called a "hundred."
2.NBT.A.1.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. *(benchmarked)
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.8.	Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
RI.2.1	Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
RI.2.3	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.

RI.2.4	Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area
RI.2.5	Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently
RI.2.6	Identify the main purpose of a text, including what the author wants to answer, explain, or describe.
RI.2.7	Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
8.1.P.A.1	Use an input device to select an item and navigate the screen
8.1.P.A.2	Navigate the basic functions of a browser
8.1.P.A.3	Use digital devices to create stories with pictures, numbers, letters and words
8.1.P.A.4	Use basic technology terms in the proper context in conversation with peers and teachers(e.g., camera, tablet, Internet, mouse, keyboard and printer)
8.1.P.A.5	Demonstrate the ability to access and use resources on a computing device
8.1.2.A.4	Demonstrate developmentally appropriate navigation skills in virtual environments(i.e. Games, museums)
8.1.P.E.1	Use the Internet to explore and investigate questions with a teacher's support
8.1.2.E.1	Use digital tools and online resources to explore a problem or issue

District/School Formative Assessment Plan	District/School Summative Assessment Plan

Formative assessment informs instruction and is ongoing throughout a unit to determine how students are progressing against the standards.	*Summative assessment is an opportunity for students to demonstrate mastery of the skills taught during a particular unit.*
• Mathematical Vocabulary Activities • Assessment Item Analysis • UDL Menu • Do Now / Exit Ticket • Teacher / Student Questioning • Class / Small Group Discussion • Organizers • Peer / Self Assessment • Visual Presentations • Think Pair Share • Teacher Observation / Anecdotal Records • Computer Based Applications/Programs • Practice Presentations • Homework Activities	• Unit Test 1 Assessment 1 (Pre Progress Reporting Period 1) • Unit Test 1 Assessment 2 • Teacher Constructed Standards Based Quiz 1(Pre Progress Reporting Period 1) • Teacher Constructed Standards Based Quiz 2 • Alternative Assessment Teacher Constructed 1 (Pre Progress Reporting Period 1) • Alternative Assessment Teacher Constructed 2

District/School Writing Tasks	
Primary Focus *This is connected to the types of writing as indicated in the standards:* • Informational/Explanatory • Research	**Routine Writing** *This is daily writing or writing that is done several times over a week.* • Text Dependent Writing (TDQ) • Quickwrites • Routine Writing

Unit Essential Questions
• How do you use place value to find the values of numbers and describe numbers in different ways? • How are even numbers and odd numbers different? • Why can an even number be shown as the sum of two equal addends?

- How do you know the value of a digit?
- How do you describe a 2-digit number as tens and ones?
- What are different ways to write a 2-digit number?
- How can you show the value of a number in different ways?
- How does finding a pattern help you find all the ways to show a number with tens and ones?
- How do you count by 1s, 5s, and 10s with numbers less than 100?
- How do you count by 1s, 5s, 10s, and 100s with numbers less than 1,000?
- How do you group tens as hundreds?
- How do you write a 3-digit number for a group of tens?
- How do you show a 3-digit number using blocks?
- How do you write a 3-digit number that is shown by a set of blocks?
- How do you know the values of the digits in numbers?
- How do you write 3-digit numbers using words?
- What are three ways to write a 3-digit number?
- How can you use blocks or quick pictures to show the value of a number in different ways?
- How do you use place value to find 10 more, 10 less, 100 more, or 100 less than a 3-digit number?
- How does place value help you identify and extend counting patterns?
- How can you make a model to solve a problem about comparing numbers?
- How do you compare 3-digit numbers?
- How can you use doubles facts to find sums for near doubles facts?
- What are some ways to remember sums?
- How do you add three numbers?
- How are addition and subtraction related?
- What are some ways to remember differences?
- How does getting to 10 in subtraction help when finding differences?

- How are bar models used to show addition and subtraction situations?
- How can acting it out help when solving a problem about equal groups?
- How can you write an addition sentence for problems with equal groups?

Unit Enduring Understandings

- Work with equal groups of objects to gain foundations for multiplication
- Understand place value
- Use place value understanding and properties of operations to add and subtract.
- Represent and solve problems involving addition and subtraction
- Add and subtract within 20.
- Work with equal groups of objects to gain foundations for multiplication

Key Vocabulary

- even
- odd
- addition sentence
- digits
- tens
- ones
- hundred
- thousand
- less than
- more than
- pattern
- more
- fewer
- compare
- = is equal to
- > is greater than
- < is less than
- sums
- doubles

- addends
- count on
- number sentence
- differences
- related facts
- count back
- bar model
- number sentence
- row

Unit Learning Targets (Students will do…)

- Know what numbers are even or odd
- Represent even numbers
- Understand place value
- Write expanded form
- Know different ways to write and show numbers
- Express different names for numbers
- Differentiate between tens and ones
- Count patterns within 100 and 1,000
- Group tens as hundreds
- Explore 3-Digit numbers
- Model 3-Digit numbers
- Understand hundreds, tens, and ones
- Know place value to 1,000
- Represent different forms of numbers
- Count on and count back by 10 and 100
- Recognize number patterns
- Compare numbers

- Know double facts
- Practice addition facts and subtraction facts
- Make a ten to add
- Add 3 addends
- Relate addition and subtraction
- Use ten to subtract
- Use drawings to represent problems
- Make equal groups
- Repeated addition

Instructional Best Practices and Exemplars

Instructional Best Practices and Exemplars
Instructional Best Practices
(Please see information in attached link)

Unit 2 Grade 2		
Content Standards	**Suggested Standards for Mathematical Practice**	**Critical Knowledge & Skills**
• 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	MP.1 Make sense of problems and persevere in solving them. MP 2 Reason abstractly and quantitatively.	Concept(s): No new concept(s) introduced Students are able to: • count on and put together to add to solve one- and two-step word problems. • take from or take apart to subtract to solve one- and two-step word problems.

a symbol for the unknown number to represent the problem. *(benchmarked)	MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.8 Look for and express regularity in repeated reasoning.	• use drawings and equations to represent the problem. Learning Goal 1: Add and subtract <u>within 100</u> to solve 1- and 2-step word problems with unknowns in any position.
• 2.OA.B.2. Fluently add and subtract within 20 using mental strategies. *end of Grade 2, know from memory all sums of two one-digit numbers.*(benchmarked)	MP 2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): No new concept(s) introduced Students are able to: • add <u>within 10</u> using mental strategies with accuracy and efficiency. • subtract <u>within 10</u> using mental strategies with accuracy and efficiency. Learning Goal 2: Fluently add and subtract <u>within 10</u> using mental strategies.
• 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	MP 2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning	Concept(s): • Even: groups having even numbers of objects will pair up evenly. • Odd: groups having odd numbers of objects will not pair up evenly. Students are able to: • pair up to 20 object, count by 2s and determine whether the group contains an even or odd number of objects. • write an equation to express an even number as a sum of two equal addends.

		Learning Goal 3: 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	MP 2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): ● Arrays as arrangements of objects. Students are able to: ● with objects arranged in an array, use repeated addition to find the total. ● with objects arranged in an array, write an equation to express repeated addition. Learning Goal 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.G.A.2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	MP 2 Reason abstractly and quantitatively. MP.6 Attend to precision. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): No new concept(s) introduced Students are able to: ● partition a rectangle into rows and columns of same-size squares and count to find the total number. Learning Goal 5: Partition a rectangle into rows and columns of same-size squares and count to find the total number.
● 2.NBT.B.5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the	MP 2 Reason abstractly and quantitatively.	Concept(s): No new concept(s) introduced Students are able to:

relationship between addition and subtraction. *(benchmarked)	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	• with accuracy and efficiency, add and subtract within 50 using strategies based on place value. • with accuracy and efficiency, add and subtract within 50 using strategies based on properties of operations. • with accuracy and efficiency, add and subtract within 50 using strategies based on the relationship between addition and subtraction. Learning Goal 6: Use a variety of strategies (place value, properties of operation, and/or the relationship between addition and subtraction) to add and subtract within 50.
• 2.NBT.B.6. Add up to four two-digit numbers using strategies based on place value and properties of operations.	MP 2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): No new concept(s) introduced Students are able to: • add three two digit numbers using place value strategies and properties of operations. • add four two digit numbers using place value strategies and properties of operations. Learning Goal 7: Add up to four two -digit numbers using strategies based on place value and properties of operations.
• 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,	MP 2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically.	Concept(s): • In adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones. • Sometimes it is necessary to compose or decompose tens or hundreds. Students are able to: • add and subtract within 1000, using concrete models or drawings.

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.	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	• add and subtract within 1000 using strategies based on place value. • add and subtract within 1000 using properties of operations or the relationship between addition and subtraction. • relate the strategies to a written method. Learning Goal 8: 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.
• 2.NBT.B.9. Explain why addition and subtraction strategies work, using place value and the properties of operations.	MP 2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): No new concept(s) introduced Students are able to: • Explain, using objects and drawings, why addition and subtraction strategies based on place value work. • Explain, using objects and drawings, why addition and subtraction strategies based on properties of operations work. Learning Goal 9: After applying addition and subtraction strategies based on place value and the properties of operations, explain why these strategies work using drawings or objects [for example, 37 + 12 equals 30 + 7 + 10 + 2 (place value) which equals 30 + 10 + 7 + 2 (property of operations)].
• 2.NBT.A.2. Count within 1000; skip-count by 5s, 10s, and 100s. *(benchmarked)	MP 2 Reason abstractly and quantitatively.	Concept(s): No new concept(s) introduced Students are able to: • count within 1000 by ones.

	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	• count within 1000 by fives, tens, and hundreds beginning at any multiple of 5, 10, or 100. Learning Goal 10: Count within 1000 by ones, fives, tens, and hundreds beginning at any multiple of 1, 5, 10, or 100 (e.g. begin at 505 and skip count by 5 up to 605, or begin at 600 and skip count by 100 up to 1000).

Unit 2 Overview (Place Value Strategies for Addition and Subtraction)	
Content Area	Mathematics
Unit Title	Place Value Strategies for Addition and Subtraction
Grade Level	Grade 2
Recommended Pacing	APX: 45 Days
Unit Summary	In this unit of study students will Represent and solve problems involving addition and subtraction, use place value understanding and properties of operations to add and subtract.
Interdisciplinary Connections	Primary Interdisciplinary Connections: Science, ELA
21st Century Themes/Career Ready Practices • Communicating with students • Using questioning and discussion techniques • Engaging students in learning • Using assessment in instruction • Demonstrating Flexibility and Responsiveness	CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason. CRP5. Consider the environmental, social and economic impacts of decisions. CRP6. Demonstrate creativity and innovation. CRP7. Employ valid and reliable research strategies. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP11. Use technology to enhance productivity.

	CRP12. Work productively in teams while using cultural global competence.
Core Instructional Materials	enVisions Math Pearson Realize IXL GSuite for Education Projector Internet resources Activity handouts from the teacher Presentations via technology including educational videos on Safari and youtube.com · Subject software Internet resources Presentations via technology, including documentaries and videos from Safari, youtube.com and teacher-created materials.

Standard(s)/Mathematical Concepts
Mathematical Practice Standards: ● MP1: Make sense of problems and persevere in solving them. ● MP2: Reason abstractly and quantitatively ● MP3: Construct viable arguments and critique the reasoning of others. ● MP4: Model with mathematics. ● MP5: Use appropriate tools strategically. ● MP6: Attend to precision. ● MP7: Look for and make use of structure. ● MP8: Look for and express regularity in repeated reasoning. Technology Standards: ● 8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.Assess the credibility and accuracy of digital content.

- 8.2 Technology Education, Engineering, Design and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

Progress Indicator(s) #	Progress Indicator Defined
RI.2.1	Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
RI.2.3	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
RI.2.4	Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area
RI.2.5	Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently
RI.2.6	Identify the main purpose of a text, including what the author wants to answer, explain, or describe.
RI.2.7	Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
8.1.P.A.1	Use an input device to select an item and navigate the screen
8.1.P.A.2	Navigate the basic functions of a browser
8.1.P.A.3	Use digital devices to create stories with pictures, numbers, letters and words

8.1.P.A.4	Use basic technology terms in the proper context in conversation with peers and teachers(e.g., camera, tablet, Internet, mouse, keyboard and printer)
8.1.P.A.5	Demonstrate the ability to access and use resources on a computing device
8.1.2.A.4	Demonstrate developmentally appropriate navigation skills in virtual environments(i.e. Games, museums)
8.1.P.E.1	Use the Internet to explore and investigate questions with a teacher's support
8.1.2.E.1	Use digital tools and online resources to explore a problem or issue
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. *(benchmarked)
2.OA.B.2.	Fluently add and subtract within 20 using mental strategies. *By end of Grade 2, know from memory all sums of two one-digit numbers.**(benchmarked)
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.G.A.2.	Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
2.NBT.B.5.	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. *(benchmarked)

2.NBT.B.6.	Add up to four two-digit numbers using strategies based on place value and properties of operations.
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.
2.NBT.B.9.	Explain why addition and subtraction strategies work, using place value and the properties of operations.
2.NBT.A.2.	Count within 1000; skip-count by 5s, 10s, and 100s. *(benchmarked)

District/School Formative Assessment Plan	District/School Summative Assessment Plan
Formative assessment informs instruction and is ongoing throughout a unit to determine how students are progressing against the standards. ● Mathematical Vocabulary Activities ● Assessment Item Analysis ● UDL Menu ● Do Now / Exit Ticket ● Teacher / Student Questioning ● Class / Small Group Discussion ● Organizers ● Peer / Self Assessment ● Visual Presentations ● Think Pair Share ● Teacher Observation / Anecdotal Records ● Computer Based Applications/Programs ● Practice Presentations ● Homework Activities	*Summative assessment is an opportunity for students to demonstrate mastery of the skills taught during a particular unit.* ● Unit Test 2 Assessment 1 (Pre Progress Reporting Period 1) ● Unit Test 2 Assessment 2 ● Teacher Constructed Standards Based Quiz 1(Pre Progress Reporting Period 1) ● Teacher Constructed Standards Based Quiz 2 ● Alternative Assessment Teacher Constructed 1 (Pre Progress Reporting Period 1) ● Alternative Assessment Teacher Constructed 2

District/School Writing Tasks	
Primary Focus *This is connected to the types of writing as indicated in the standards:* ● Informational/Explanatory ● Research	**Routine Writing** *This is daily writing or writing that is done several times over a week.* ● Text Dependent Writing (TDQ) ● Quickwrites ● Routine Writing

Unit Essential Questions
● How does breaking apart a number make it easier to add? ● How can you make an addend a ten to help solve an addition problem? ● How do you break apart addends to add tens and then add ones? ● When do you regroup in addition? ● How do you record 2-digit addition? ● How do you record the steps when adding 2-digit numbers? ● How do you record the steps when adding 2-digit numbers? ● What are two different ways to write addition problems? ● How can drawing a diagram help when solving addition problems? ● How do you write a number sentence to represent a problem? ● What are some ways to add 3 numbers? ● What are some ways to add 4 numbers? ● How does breaking apart a number make subtracting easier? ● How does breaking apart a number make subtracting easier? ● When do you regroup in subtraction?

- How do you record 2-digit subtraction?
- How do you record the steps when subtracting 2-digit numbers?
- How do you record the steps when subtracting 2-digit numbers?
- What are two different ways to write subtraction problems?
- How can you use addition to solve subtraction problems?
- How can drawing a diagram help when solving subtraction problems?
- How do you write a number sentence to represent a problem?
- How do you decide what steps to do to solve a problem?
- How do you draw quick pictures to show adding 3-digit numbers?
- How do you break apart addends to add hundreds, tens, and then ones?
- When do you regroup ones in addition?
- When do you regroup tens in addition?
- How do you know when to regroup in addition?
- How can making a model help when solving subtraction problems?
- When do you regroup tens in subtraction?
- When do you regroup hundreds in subtraction?
- How do you know when to regroup in subtraction?
- How do you regroup when there are zeros in the number you start with?

Unit Enduring Understandings

- Represent and solve problems involving addition and subtraction.
- Use place value understanding and properties of operations to add and subtract.

Key Vocabulary

- sum
- addend

- tens
- ones
- regroup
- hundred
- digit
- colum
- subtract
- difference
- bar model
- number sentence

Unit Learning Targets (Students will do…)

- Find a sum by breaking apart a 1-digit addend to make a 2-digit addend a multiple of 10.
- Use compensation to develop flexible thinking for 2-digit addition.
- Apply place-value concepts when using a break-apart strategy for 2-digit addition.
- Model 2-digit addition with regrouping.
- Draw quick pictures and record 2-digit addition using the standard algorithm.
- Record 2-digit addition using the standard algorithm.
- Practice 2-digit addition with and without regrouping.
- Rewrite horizontal addition problems vertically in the standard algorithm format.
- Solve problems involving 2-digit addition using the strategy draw a diagram.
- Represent addition situations with number sentences using a symbol for the unknown number.
- Find sums of three 2-digit numbers.
- Find sums of four 2-digit numbers.
- Break apart a 1-digit subtrahend to subtract it from a 2-digit number.
- Break apart a 2-digit subtrahend to subtract it from a 2-digit number.
- Model 2-digit subtraction with regrouping.
- Draw quick pictures and record 2-digit subtraction using the standard algorithm.

- Record 2-digit subtraction using the standard algorithm.
- Practice 2-digit subtraction with and without regrouping.
- Rewrite horizontal subtraction problems vertically in the standard algorithm format.
- Use addition to find differences.
- Solve problems involving 2-digit subtraction by using the strategy draw a diagram.
- Represent subtraction situations with number sentences using a symbol for the unknown number.
- Analyze word problems to determine what operations to use to solve multistep problems.
- Draw quick pictures to represent 3-digit addition.
- Apply place value concepts when using a break apart strategy for 3-digit addition.
- Record 3-digit addition using the standard algorithm with possible regrouping of ones.
- Record 3-digit addition using the standard algorithm with possible regrouping of tens.
- Record 3-digit addition using the standard algorithm with possible regrouping of both ones and tens.
- Solve problems involving 3-digit subtraction by using the strategy make a model.
- Record 3-digit subtraction using the standard algorithm with possible regrouping of tens.
- Record 3-digit subtraction using the standard algorithm with possible regrouping of hundreds.
- Record 3-digit subtraction using the standard algorithm with possible regrouping of both hundreds and tens.
- Record subtraction using the standard algorithm when there are zeros in the minuend.

Instructional Best Practices and Exemplars

Instructional Best Practices and Exemplars
Instructional Best Practices
(Please see information in attached link)

Unit 3 Grade 2

Content & Practice Standards		Critical Knowledge & Skills
• 2.MD.A.1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.	MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure.	Concept(s): No new concept(s) introduced Students are able to: • measure lengths of objects using rules, yardsticks, meter sticks and measuring tapes. Learning Goal 1: Estimate lengths of objects and measure lengths of objects using appropriate tools.
• 2.MD.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.	MP 2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure.	Concept(s): No new concept(s) introduced Students are able to: • measure the length of an object using different units of measure. • compare the measurements and explain how they relate to each unit. Learning Goal 2: Compare measurements of an object taken with two different units of measure and describe how the two measurements relate to the size of the unit chosen.
• 2.MD.A.3. Estimate lengths using units of inches, feet, centimeters, and meters	MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure.	Concept(s): No new concept(s) introduced Students are able to: • estimate lengths of objects. Learning Goal 1: Estimate lengths of objects and measure lengths of objects using appropriate tools.

● 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.	MP.5 Use appropriate tools strategically. MP.6 Attend to precision.	Concept(s): No new concept(s) introduced Students are able to: ● Measure objects, comparing to determine how much longer one object is than another. ● Express the difference in length in terms of a standard unit of measure. Learning Goal 3: Compare lengths of two objects and determine how much longer one object is than the other using a standard unit of measure.
● 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 *For example, if Angela needs 30 feet of ribbon for gifts, but she only has 17 feet, number sentences 17 + □ = 30 and 30 – □ = 17 both represent the situation and □ represents the number of feet of ribbon that she still needs.*	MP.1 Make sense of problems and persevere in solving them. MP 2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically.	Concept(s): No new concept(s) introduced Students are able to: ● add and subtract, within 100, to solve word problems involving lengths (lengths are given in the same units). ● use drawings to represent the problem. ● use number sentences with a symbol for the unknown to represent the problem. Learning Goal 4: Add and subtract within 100 to solve word problems involving lengths using a symbol to represent the unknown number.
● 2.MD.B.6. Represent whole numbers as lengths from 0 on a number line diagram with	MP.4 Model with mathematics.	Concept(s): No new concept(s) introduced

equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.	MP 2 Reason abstractly and quantitatively. MP.5 Use appropriate tools strategically.	Students are able to: ● use equally spaced points of a number line to represent whole numbers as lengths from 0. ● represent whole number sums within 100 on a number line diagram. ● represent whole number differences within 100 on a number line diagram. Learning Goal 5: Use a number line to represent the solution of whole number sums and differences related to length within 100.
● 2.MD.C.7. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.	MP.5 Use appropriate tools strategically. MP.6 Attend to precision.	Concept(s): No new concept(s) introduced Students are able to: ● use analog and digital clocks, tell time to the nearest five minutes using a.m. and p.m. ● use analog and digital clocks, write time to the nearest five minutes using a.m. and p.m. Learning Goal 6: Tell and write time using analog and digital clocks to the nearest five minutes using a.m. and p.m.
● 2.NBT.A.2. Count within 1000; skip-count by 5s, 10s, and 100s. *(benchmarked)	MP 2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): No new concept(s) introduced Students are able to: ● count within 1000 by ones. ● count within 1000 by fives, tens, and hundreds beginning at any multiple of 5, 10, or 100. Learning Goal 7: Orally count within 1000 including skip-counting by 5s, 10s, and 100s

• 2.NBT.B.5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. *(benchmarked)	MP 2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): • Place value • Relationship between addition and subtraction • Properties of Operations Students are able to: • add and subtract within 100 using place value strategies. • add and subtract within 100 using properties of operations and the relationship between addition and subtraction. Learning Goal 8: Select and use a strategy (place value, properties of operation, and/or the relationship between addition and subtraction) to add and subtract within 100.

Unit 3 Overview (Measurement)	
Content Area	Mathematics
Unit Title	Measurement
Grade Level	Grade 2
Recommended Pacing	APX: 45 Days
Unit Summary	In this unit of study students will work with time and money, measure and estimate lengths in standard units, relate addition and subtraction to length, represent and interpret data, measure and estimate lengths in standard units and relate addition and subtraction to length.

Interdisciplinary Connections	Primary Interdisciplinary Connections: Science, ELA
21st Century Themes/Career Ready Practices • Communicating with students • Using questioning and discussion techniques • Engaging students in learning • Using assessment in instruction • Demonstrating Flexibility and Responsiveness	CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason. CRP5. Consider the environmental, social and economic impacts of decisions. CRP6. Demonstrate creativity and innovation. CRP7. Employ valid and reliable research strategies. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP11. Use technology to enhance productivity. CRP12. Work productively in teams while using cultural global competence.
Core Instructional Materials	enVisions Math Pearson Realize IXL GSuite for Education Projector Internet resources Activity handouts from the teacher Presentations via technology including educational videos on Safari and youtube.com · Subject software Internet resources Presentations via technology, including documentaries and videos from Safari, youtube.com and teacher-created materials.

Standard(s)/Mathematical Concepts
Mathematical Practice Standards: • MP1: Make sense of problems and persevere in solving them. • MP2: Reason abstractly and quantitatively • MP3: Construct viable arguments and critique the reasoning of others. • MP4: Model with mathematics. • MP5: Use appropriate tools strategically. • MP6: Attend to precision.

- MP7: Look for and make use of structure.
- MP8: Look for and express regularity in repeated reasoning.

Technology Standards:

- 8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.Assess the credibility and accuracy of digital content.

- 8.2 Technology Education, Engineering, Design and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

Progress Indicator(s) #	Progress Indicator Defined
RI.2.1	Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
RI.2.3	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
RI.2.4	Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area
RI.2.5	Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently
RI.2.6	Identify the main purpose of a text, including what the author wants to answer, explain, or describe.
RI.2.7	Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.

8.1.P.A.1	Use an input device to select an item and navigate the screen
8.1.P.A.2	Navigate the basic functions of a browser
8.1.P.A.3	Use digital devices to create stories with pictures, numbers, letters and words
8.1.P.A.4	Use basic technology terms in the proper context in conversation with peers and teachers(e.g., camera, tablet, Internet, mouse, keyboard and printer)
8.1.P.A.5	Demonstrate the ability to access and use resources on a computing device
8.1.2.A.4	Demonstrate developmentally appropriate navigation skills in virtual environments(i.e. Games, museums)
8.1.P.E.1	Use the Internet to explore and investigate questions with a teacher's support
8.1.2.E.1	Use digital tools and online resources to explore a problem or issue
2.MD.A.1.	Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
2.MD.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.MD.A.3.	Estimate lengths using units of inches, feet, centimeters, and meters
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.
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. *For example, if Angela needs 30 feet of ribbon for gifts,*

	but she only has 17 feet, number sentences 17 + ☐ = 30 and 30 – ☐ = 17 both represent the situation and ☐ represents the number of feet of ribbon that she still needs.
2.MD.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.MD.C.7.	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
2.NBT.A.2.	Count within 1000; skip-count by 5s, 10s, and 100s. *(benchmarked)
2.NBT.B.5.	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. *(benchmarked)

District/School Formative Assessment Plan	District/School Summative Assessment Plan
Formative assessment informs instruction and is ongoing throughout a unit to determine how students are progressing against the standards. ● Mathematical Vocabulary Activities ● Assessment Item Analysis ● UDL Menu ● Do Now / Exit Ticket ● Teacher / Student Questioning ● Class / Small Group Discussion ● Organizers ● Peer / Self Assessment ● Visual Presentations ● Think Pair Share ● Teacher Observation / Anecdotal Records	*Summative assessment is an opportunity for students to demonstrate mastery of the skills taught during a particular unit.* ● Unit Test 3 Assessment 1 (Pre Progress Reporting Period 1) ● Unit Test 3 Assessment 2 ● Teacher Constructed Standards Based Quiz 1(Pre Progress Reporting Period 1) ● Teacher Constructed Standards Based Quiz 2 ● Alternative Assessment Teacher Constructed 1 (Pre Progress Reporting Period 1) ● Alternative Assessment Teacher Constructed 2

• Computer Based Applications/Programs • Practice Presentations • Homework Activities	

District/School Writing Tasks	
Primary Focus *This is connected to the types of writing as indicated in the standards:* • Informational/Explanatory • Research	**Routine Writing** *This is daily writing or writing that is done several times over a week.* • Text Dependent Writing (TDQ) • Quickwrites • Routine Writing

Unit Essential Questions
• How do you find the total value of a group of dimes, nickels, and pennies? • How do you find the total value of a group of coins? • How do you order coins to help find the total value of a group of coins? • How do you choose coins to show a money amount in different ways? • How can you show the value of one dollar with coins? • How do you show money amounts greater than one dollar? • How does acting it out help when solving problems about money? • How do you tell time to the hour and half hour on a clock? • How do you tell and show time to five minutes? • What are the different ways you can read the time on a clock? • How do you use A.M. and P.M. to describe times? • How can you use inch models to measure length? • Why is using a ruler similar to using a row of color tiles to measure length? • How do you estimate the lengths of objects in inches?

- How do you use an inch ruler to measure lengths?
- How can drawing a diagram help when solving problems about length?
- Why is measuring in feet different from measuring in inches?
- How do you estimate the lengths of objects in feet?
- How do you choose a measuring tool to use when measuring lengths?
- How can a line plot be used to show measurement data?
- How do you use a centimeter model to measure the lengths of objects?
- How do you use known lengths to estimate unknown lengths?
- How do you use a centimeter ruler to measure length?
- How can drawing a diagram help when solving problems about lengths?
- How is measuring in meters different from measuring in centimeters?
- How do you estimate the lengths of objects in meters?
- How do you find the difference between the lengths of two objects?

Unit Enduring Understandings

- Work with time and money
- Measure and estimate lengths in standard units
- Relate addition and subtraction to length
- Represent and interpret data
- Measure and estimate lengths in standard units
- Relate addition and subtraction to length

Key Vocabulary

- dime
- nickel
- penny
- quarter
- cent sign

- dollar
- dollar sign
- decimal point
- minutes
- hour
- quarter past
- noon
- midnight
- A.M. and P.M.
- inch
- foot
- length
- feet
- measuring tape
- yardstick
- inch ruler
- line plot
- lengths
- centimeters
- meters

Unit Learning Targets (Students will do…)

- Find the total value for dimes, nickels, pennies, and quarters
- Count collections of coins
- Show amounts in two ways
- Show the value of one dollar
- Make amounts greater than $1
- Solve problems with money
- Tell time to the hour, half hour, and five minutes
- Distinguish the difference between A.M. and P.M.
- Measure with inch models
- Make and use a ruler
- Estimate lengths in inches
- Measure with an inch ruler

- Add and subtract in inches
- Measure in inches and feet
- Estimate lengths in feet
- Choose the correct tool for measurements
- Display measurement data
- Measure with a centimeter model
- Estimate lengths in centimeters
- Measure with a centimeter ruler
- Add and subtract lengths
- Estimate lengths in meters
- Measure and compare lengths

Instructional Best Practices and Exemplars

Instructional Best Practices and Exemplars
Instructional Best Practices
(Please see information in attached link)

Unit 4 Grade 2		
Content & Practice Standards		**Critical Knowledge & Skills**
• 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.	MP 2 Reason abstractly and quantitatively. MP.6 Attend to precision. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): No new concept(s) introduced Students are able to: • draw shapes having specified attributes (e.g. number of equal faces, number of angles) • identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

		Learning Goal 1: 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.
● 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.	MP.4 Model with mathematics. MP.7 Look for and make use of structure.	Concept(s): ● Equal shares of identical wholes need not have the same shape. Students are able to: ● partition rectangles into two, three, or four equal shares. ● partition two same-sized rectangles to show that equal shares of identical wholes need not have the same shape. ● describe the shares using the words halves, thirds, fourths, half of, a third of, a fourth of, etc. ● recognize and then describe the whole as two halves, three thirds, four fourths. Learning Goal 2: 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, and four fourths.
● 2.MD.C.8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. *mple: If you have 2 dimes and 3 pennies, how many cents do you have?*	MP.1 Make sense of problems and persevere in solving them. MP 2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically.	Concept(s): ● Know the value of dollar bills, quarters, dimes, nickels, and pennies. Students are able to: ● identify dollar bills, quarters, dimes, nickels, and pennies. ● using dollar bills, quarters, dimes, nickels, and pennies, count to determine the total amount of money. ● solve word problems involving dollar bills, quarters, dimes, nickels, and pennies.

	MP.8 Look for and express regularity in repeated reasoning.	Learning Goal 3: Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using the $ and ¢ symbols appropriately.
● 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.	MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): ● Generate data. Students are able to: ● generate measurement data by measuring lengths, to the nearest whole unit, of several objects or by making repeated measurements of the same object. ● record the measurements in a line plot having a horizontal scale in whole number units. Learning Goal 4: Use tools of measurement to measure lengths of several objects to the nearest whole unit and represent the data on a line plot with appropriate whole number units on the horizontal scale.
● 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.	MP.1 Make sense of problems and persevere in solving them. MP 2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): No new concept(s) introduced Students are able to: ● draw a picture graph to represent a data set with up to four categories. ● draw a bar graph to represent a data set with up to four categories. ● use information in a bar graph to solve simple put together, take apart, and compare problems. Learning Goal 5: 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 the graph.

• 2.OA.B.2. Fluently add and subtract within 20 using mental strategies. *By end of Grade 2, know from memory all sums of two one-digit numbers.* *(benchmarked)	MP 2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): No new concept(s) introduced Students are able to: • add <u>within 20</u> using mental strategies with accuracy and efficiency. • subtract <u>within 20</u> using mental strategies with accuracy and efficiency. Learning Goal 6: Fluently add and subtract <u>within 20</u> using mental strategies.
• 2.NBT.B.5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. *(benchmarked)	MP 2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): No new concept(s) introduced Students are able to: • with accuracy and efficiency, add and subtract within 100 using place value strategies, properties of operations and/or the relationship between addition and subtraction. Learning Goal 7: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

Unit 4 Overview (Reason with Shapes and Represent Data)	
Content Area	Mathematics
Unit Title	Reason with Shapes and Represent Data
Grade Level	Grade 2

Recommended Pacing	APX: 45 Days
Unit Summary	In this unit of study students will represent and interpret data, reason with shapes and their attributes.
Interdisciplinary Connections	Primary Interdisciplinary Connections: Science, ELA
21st Century Themes/Career Ready Practices • Communicating with students • Using questioning and discussion techniques • Engaging students in learning • Using assessment in instruction • Demonstrating Flexibility and Responsiveness	CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason. CRP5. Consider the environmental, social and economic impacts of decisions. CRP6. Demonstrate creativity and innovation. CRP7. Employ valid and reliable research strategies. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP11. Use technology to enhance productivity. CRP12. Work productively in teams while using cultural global competence.
Core Instructional Materials	enVisions Math Pearson Realize IXL GSuite for Education Projector Internet resources Activity handouts from the teacher Presentations via technology including educational videos on Safari and youtube.com · Subject software Internet resources Presentations via technology, including documentaries and videos from Safari, youtube.com and teacher-created materials.

Standard(s)/Mathematical Concepts
Mathematical Practice Standards:

- MP1: Make sense of problems and persevere in solving them.
- MP2: Reason abstractly and quantitatively
- MP3: Construct viable arguments and critique the reasoning of others.
- MP4: Model with mathematics.
- MP5: Use appropriate tools strategically.
- MP6: Attend to precision.
- MP7: Look for and make use of structure.
- MP8: Look for and express regularity in repeated reasoning.

Technology Standards:

- 8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.Assess the credibility and accuracy of digital content.

- 8.2 Technology Education, Engineering, Design and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

Progress Indicator(s) #	Progress Indicator Defined
RI.2.1	Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
RI.2.3	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
RI.2.4	Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area
RI.2.5	Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently

RI.2.6	Identify the main purpose of a text, including what the author wants to answer, explain, or describe.
RI.2.7	Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
8.1.P.A.1	Use an input device to select an item and navigate the screen
8.1.P.A.2	Navigate the basic functions of a browser
8.1.P.A.3	Use digital devices to create stories with pictures, numbers, letters and words
8.1.P.A.4	Use basic technology terms in the proper context in conversation with peers and teachers(e.g., camera, tablet, Internet, mouse, keyboard and printer)
8.1.P.A.5	Demonstrate the ability to access and use resources on a computing device
8.1.2.A.4	Demonstrate developmentally appropriate navigation skills in virtual environments(i.e. Games, museums)
8.1.P.E.1	Use the Internet to explore and investigate questions with a teacher's support
8.1.2.E.1	Use digital tools and online resources to explore a problem or issue
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.
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.

2.MD.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.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.
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.
2.OA.B.2.	Fluently add and subtract within 20 using mental strategies. *By end of Grade 2, know from memory all sums of two one-digit numbers.* *(benchmarked)
2.NBT.B.5.	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. *(benchmarked)

District/School Formative Assessment Plan	District/School Summative Assessment Plan
Formative assessment informs instruction and is ongoing throughout a unit to determine how students are progressing against the standards. ● Mathematical Vocabulary Activities ● Assessment Item Analysis ● UDL Menu ● Do Now / Exit Ticket ● Teacher / Student Questioning ● Class / Small Group Discussion ● Organizers ● Peer / Self Assessment ● Visual Presentations ● Think Pair Share	*Summative assessment is an opportunity for students to demonstrate mastery of the skills taught during a particular unit.* ● Unit Test 4 Assessment 1 (Pre Progress Reporting Period 1) ● Unit Test 4 Assessment 2 ● Teacher Constructed Standards Based Quiz 1(Pre Progress Reporting Period 1) ● Teacher Constructed Standards Based Quiz 2 ● Alternative Assessment Teacher Constructed 1 (Pre Progress Reporting Period 1) ● Alternative Assessment Teacher Constructed 2

• Teacher Observation / Anecdotal Records • Computer Based Applications/Programs • Practice Presentations • Homework Activities	

District/School Writing Tasks	
Primary Focus *This is connected to the types of writing as indicated in the standards:* • Informational/Explanatory • Research	**Routine Writing** *This is daily writing or writing that is done several times over a week.* • Text Dependent Writing (TDQ) • Quickwrites • Routine Writing

Unit Essential Questions

- How do you use a tally chart to record data from a survey?
- How do you use a picture graph to show data?
- How do you make a picture graph to show data in a tally chart?
- How is a bar graph used to show data?
- How do you make a bar graph to show data?
- How does making a bar graph help when solving problems about data?
- What objects match three-dimensional shapes?
- How would you describe the faces of a rectangular prism and the faces of a cube?
- How can you build a rectangular prism?
- What shapes can you name just by knowing the number of sides and vertices?
- How do you find and count angles in two-dimensional shapes?
- How do you use the number of sides and angles to sort two-dimensional shapes?
- How do you find the total number of same-size squares that will cover a rectangle?

- What are halves, thirds, and fourths of a whole?
- How do you know if a shape shows halves, thirds, or fourths?
- How do you find a half of, a third of, or a fourth of a whole?
- How can drawing a diagram help when solving problems about equal shares?

Unit Enduring Understandings

- Represent and interpret data
- Reason with shapes and their attributes

Key Vocabulary

- survey
- data
- tally chart
- tally marks
- picture graph
- key
- bar graph
- cube
- rectangular prism
- sphere
- cylinder
- cone
- face
- edge
- vertex
- vertices
- side
- quadrilateral
- pentagon
- hexagon
- angle

- triangle
- rectangle
- rows
- columns halves
- thirds
- fourths
- equal parts
- whole
- half of
- third of
- fourth of
- quarter of halves

Unit Learning Targets (Students will do…)

- Collect data
- Read picture graphs
- Make picture graphs
- Read bar graphs
- Make bar graphs
- Display data
- Identify three-dimensional shapes
- Know attributes of three-dimensional shapes
- Build three-dimensional shapes
- Identify two-dimensional shapes
- Identify angles in two-dimensional shapes
- Sort two-dimensional shapes
- Partition rectangles
- Identify and name equal parts of shapes
- Show equal parts of a whole

- Describe equal parts
- Solve problems using equal shares

Instructional Best Practices and Exemplars

Instructional Best Practices and Exemplars
Instructional Best Practices
(Please see information in attached link)

Modifications for SpEd/ESL/Students at Risk/Gifted

● Complete fewer or different homework problems than peers
● Write shorter papers
● Supports, Accommodations, and Modifications must be provided as stated in IEP, 504 Plan, or I&RS Intervention Plan, and may include (but are not limited to) the following:

Presentation accommodations:
● Listen to audio recordings instead of reading text
● Learn content from audio books, movies, videos and digital media instead of reading print versions
● Use alternate texts at lower readability level
● Work with fewer items per page or line and/or materials in a larger print size
● Use magnification device, screen reader, or Braille / Nemeth Code
● Use audio amplification device (e.g., hearing aid(s), auditory trainer, sound-field system (which may require teacher use of microphone)
● Be given a written list of instructions
● Record a lesson, instead of taking notes
● Have another student share class notes with him
● Be given an outline of a lesson
● Be given a copy of teacher's lecture notes
● Be given a study guide to assist in preparing for assessments
● Use visual presentations of verbal material, such as word webs and visual organizers
● Use manipulatives to teach or demonstrate concepts
● Have curriculum materials translated into native language

Response accommodations:

- Use sign language, a communication device, Braille, other technology, or native language other than English
- Dictate answers to a scribe
- Capture responses on an audio recorder
- Use a spelling dictionary or electronic spell-checker
- Use a word processor to type notes or give responses in class
- Use a calculator or table of “math facts”
- Respond directly in the test booklet rather than on an answer sheet. Setting accommodations:
- Work or take a test in a different setting, such as a quiet room with few distractions
- Sit where he learns best (for example, near the teacher, away from distractions)
- Use special lighting or acoustics
- Take a test in small group setting
- Use sensory tools such as an exercise band that can be looped around a chair’s legs (so fidgety kids can kick it and quietly get their energy out)
- Use noise buffers such as headphones, earphones, or earplugs

Timing accommodations:
- Take more time to complete a task or a test
- Have extra time to process oral information and directions
- Take frequent breaks, such as after completing a task

Scheduling accommodations:
- Take more time to complete a project
- Take a test in several timed sessions or over several days
- Take sections of a test in a different order
- Take a test at a specific time of day

Organization skills accommodations:
- Use an alarm to help with time management
- Mark texts with a highlighter
- Have help coordinating assignments in a book or planner

● Receive study skills instruction

Assignment modifications:
● Answer fewer or different test questions
● Create alternate projects or assignments

Curriculum modifications:
● Learn different material
● Get graded or assessed using a different standard than the one for classmates