

# TOWNSHIP OF UNION PUBLIC SCHOOLS



# Grade 2 Mathematics

Adopted December 15, 2020

### **Mission Statement**

The mission of the Township of Union Public Schools is to build on the foundations of honesty, excellence, integrity, strong family, and community partnerships. We promote a supportive learning environment where every student is challenged, inspired, empowered, and respected as diverse learners. Through cultivation of students' intellectual curiosity, skills and knowledge, our students can achieve academically and socially, and contribute as responsible and productive citizens of our global community.

### **Philosophy Statement**

The Township of Union Public School District, as a societal agency, reflects democratic ideals and concepts through its educational practices. It is the belief of the Board of Education that a primary function of the Township of Union Public School System is to formulate a learning climate conducive to the needs of all students in general, providing therein for individual differences. The school operates as a partner with the home and community.

# Unit Title: Mathematics Place Value and Three Digit Addition and Subtraction Strategies – Unit 1 – Module A

Grade level: Grade 2

Timeframe: Marking Period 1

## Rationale

### *Grade 2 – Place Value and Three Digit Addition and Subtraction Strategies – Unit 1*

The primary focus of Unit 1 is building place value understanding for three digit numbers and working with numbers within 1000. Learners extend the counting sequence mastered in grade 1 to count within 1000. Learners build place value understanding for three digit numbers, understanding that the three digits represent amounts of hundreds, tens, and ones.

Building upon grade 1 work adding within 100 using concrete models, drawings, and strategies, grade 2 learners use addition and subtraction within 100 to solve both one- and two-step word problems for a variety of situations. They use concrete models and drawings to develop conceptual understanding of addition and subtraction within 1000. The unit concludes as learners begin to explain why addition and subtraction strategies work, and pursue fluency for addition and subtraction within 20 using mental strategies.

## Essential Questions

## Standards

### Standards (Taught and Assessed):

- **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.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.
  - 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

- **2.1.1.BT.A.3** Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
- **2.1.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.

Key: ■ Major Cluster    □ Supporting Cluster    © Additional Cluster

### Highlighted Career Ready Practices and 21<sup>st</sup> Century Themes/Skills

- 9.1.4.A.2 Evaluate available resources that can assist in solving problems.
- 9.1.4.A.5 Apply critical thinking and problem-solving skills in classroom and family settings.
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.

### Social-Emotional Learning Competencies

- Self-Awareness
- Self-Management
- Social Awareness
- Relationship Skills
- Responsible Decision-Making

Pre-Assessment and Reflection

Pre-Assessment	Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections

Student Learning Objectives (SLO), Strategies, Formative Assessment, Activities and Resources (add rows as needed)

SLO – WALT We are learning to/that	Student Strategies	Formative Assessment	Activities and Resources	Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections
2.NBT.A.2 – WALT count within 1000-100	<ul style="list-style-type: none"> <li>Recall and apply number sequence</li> </ul>	Use hundreds chart with missing numbers	<p>Hundreds chart (counting by ones within the chart) Around the World Counting Game Highlighting counting by 10's columns on a hundreds chart Highlighting by 5's boxes on a hundreds chart</p> <p>Using manipulatives (snap cubes, legos, pennies, cereal, beans, etc.) in groups of 5 and 10 to make a connection to the numbers highlighted on a hundreds chart</p>	<ul style="list-style-type: none"> <li>General and Special Education teachers will work together to provide students with the support they need as written in their individualized education plan</li> </ul>
2.NBT.A.2 – WALT skip count by tens	<ul style="list-style-type: none"> <li>Recognize and apply number patterns</li> </ul>	Color in boxes counting by 10's on a hundreds chart	<p>Color in boxes counting by 5's on a hundreds chart</p> <p>Practice skip counting by 10's and 5's using hands and feet Use jumps on a number line or make a beaded number line</p>	
2.NBT.A.3 – WALT read numbers to 1000 100 using base-ten numerals	<ul style="list-style-type: none"> <li>Recall the value of a digit based upon a place in a number</li> </ul>	Roll a die 2x to create a 2-digit number - read number aloud, write in standard, expanded, and word form.	<ul style="list-style-type: none"> <li>Practice connecting a digit's place in a 2-digit number to its value (highlighted or underlined digit)</li> <li>Draw base-ten blocks to represent a 2 digit</li> </ul>	
2.NBT.A.3 – WALT write numbers to 1000	<ul style="list-style-type: none"> <li>Recall the value of a digit based upon a place</li> </ul>			

<p>100 using base-ten numerals</p>	<p><i>in a number and transfer the values into a number sentence</i></p>		<p><i>number - practice writing values of each digit as an addition sentence (expanded form)</i></p> <ul style="list-style-type: none"> <li>Utilize number spellings reference sheet to assist in a 2-digit # being written in word form</li> </ul>	
<p><b>2.NBT.A.1 – WALT</b> a three-digit number is made up of hundreds, tens, and ones</p>	<ul style="list-style-type: none"> <li>Recall that the first number in a 3-digit number is the hundreds place, the second number is the tens place, and the third number is the ones place</li> </ul>	<p>Exit ticket-Write how many hundreds, tens, and ones for a given three-digit number</p>	<p>Utilize base ten blocks to model numbers as hundreds, tens, and ones in a chart Draw hundreds, tens, and ones to model three-digit numbers</p>	
<p><b>2.NBT.A.1 – WALT</b> the three digits of a three-digit number represent amounts of hundreds, amounts of tens, and amounts of ones</p>	<ul style="list-style-type: none"> <li>Demonstrate that the first number in a 3-digit number represents a group of hundreds, the second number represents a group of tens, and the third number represents a group of ones</li> </ul>	<p>Exit ticket: Draw the hundreds, tens, and ones of a given three-digit number Exit ticket: Give students two ways to represent a three-digit number; students have to explain why the two ways show the same number</p>	<p>Use a graphic organizer to show the value of a number in different ways (example: 452 can be shown as 4 hundreds, 5 tens, and 2 ones or as 45 tens and 2 ones)</p>	
<p><b>2.NBT.A.1 – WALT</b> 100 is a bundle of ten tens called a “hundred”</p>	<ul style="list-style-type: none"> <li>Recall and apply number pattern knowledge to recognize that each group of 10 tens is equivalent to 100</li> </ul>	<p>Exit ticket: Circle tens blocks to show a hundred</p>	<p>Use manipulatives to model ten of the ten sticks and one hundreds block to show that ten tens equal one hundred</p>	
<p><b>2.NBT.A.1 – WALT</b> the numbers 100, 200, 300, 400, 500, 600, 700, 800, and 900 refer to 1, 2, 3, 4, 5, 6, 7, 8, or 9 hundreds (and 0 tens and 0</p>	<ul style="list-style-type: none"> <li>Recognize that a three-digit number can represent a group of hundreds</li> </ul>	<p>Exit ticket: Have students highlight the digit that increases in the hundreds place; represent a group of 100 in expanded form</p>	<p>Model three-digit numbers in expanded form to show the value of the hundreds, tens, and ones</p>	

ones)				
<b>2.NBT.A.2 – WALT</b> skip count by hundreds	<ul style="list-style-type: none"> <li>Recognize and apply number patterns</li> </ul>	Continue a list of numbers counting by hundreds	Use a number line to show the addition of hundreds as an increase in the hundreds place only	
<b>2.NBT.A.3 – WALT</b> read numbers to 1000 using expanded form	<ul style="list-style-type: none"> <li>Recall the value of a digit based upon a place in a number</li> </ul>	Roll a die 3x to create a 3-digit number - read number aloud, write in standard, expanded, and word form.	<ul style="list-style-type: none"> <li>Model with manipulatives, draw, and write numbers to make it easier to read three-digit numbers in expanded form</li> <li>Use online base-ten blocks</li> <li>Make place value “snakes” out of egg cartons. Play a game of naming a 3-digit number and have students place some type of marker in each place to represent the 3-digit number</li> <li>Use a graphic organizer to show ways to make a number (example: standard form, word form, expanded form, and drawing base ten blocks)</li> </ul>	
<b>2.NBT.A.3– WALT</b> write numbers to 1000 using expanded form	<ul style="list-style-type: none"> <li>Recall the value of a digit based upon a place in a number and transfer the values into a number sentence</li> </ul>			
<b>2.NBT.A.4 – WALT</b> compare two three-digit numbers using place value understanding and record the results using the symbols $>$ , $=$ , $<$	<ul style="list-style-type: none"> <li>Solve problems involving number comparisons by utilizing knowledge of place value</li> </ul>	Determine if comparison sentences are true or false	Use a YouTube video to model alligator strategy for greater than and less than Compare numbers using the symbols $>$ , $<$ , $=$ after learning the alligator strategy Model/draw the value of each digit in each number one under the other to compare starting with the greatest place value position	

			<p><i>Encourage verbal explanations of the comparisons (example: 550 is greater than 325 because 5 hundreds is greater than 3 hundreds)</i></p> <p><i>War Game: Partners use three-digit number cards to compare the values of numbers (greater number wins)</i></p>	
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**Benchmark Assessment 1**

<b>Benchmark Assessment</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>
	Modifications per students' IEP

**Benchmark Assessment 2**

<b>Benchmark Assessment</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>
	Modifications per students' IEP

**Summative Assessments (add rows as needed)**

<b>Summative Assessment</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>
	Modifications per students' IEP



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**Interdisciplinary Connections**

<b>Interdisciplinary Connections</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>
	Modifications per students' IEP

**Unit Title: Mathematics Place Value and Three Digit Addition and Subtraction Strategies – Unit 1 – Module B**

**Grade level: Grade 2**

**Timeframe: Marking Period 1**

**Rationale**

*Grade 2 – Place Value and Three Digit Addition and Subtraction Strategies – Unit 1*

The primary focus of Unit 1 is building place value understanding for three digit numbers and working with numbers within 1000. Learners extend the counting sequence mastered in grade 1 to count within 1000. Learners build place value understanding for three digit numbers, understanding that the three digits represent amounts of hundreds, tens, and ones.

Building upon grade 1 work adding within 100 using concrete models, drawings, and strategies, grade 2 learners use addition and subtraction within 100 to solve both one- and two-step word problems for a variety of situations. They use concrete models and drawings to develop conceptual understanding of addition and subtraction within 1000. The unit concludes as learners begin to explain why addition and subtraction strategies work, and pursue fluency for addition and subtraction within 20 using mental strategies

## Essential Questions

## Standards

### Standards (Taught and Assessed):

- **2.OA.A.1** Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
- **2.NBT.B.7** Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; 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 operation.
- **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.

**Key:** ■ Major Cluster    □ Supporting Cluster    © Additional Cluster

### Highlighted Career Ready Practices and 21<sup>st</sup> Century Themes/Skills

- 9.1.4.A.1 Recognize a problem and brainstorm ways to solve the problem individually or collaboratively.
- 9.1.4.A.2 Evaluate available resources that can assist in solving problems.
- 9.1.4.A.5 Apply critical thinking and problem-solving skills in classroom and family settings.
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.

### Social-Emotional Learning Competencies

- Self-Awareness
- Self-Management
- Social Awareness
- Relationship Skills
- Responsible Decision-Making

## Instructional Plan

### Pre-Assessment and Reflection

<b>Pre-Assessment</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>		

### Student Learning Objectives (SLO), Strategies, Formative Assessment, Activities and Resources (add rows as needed)

SLO – WALT We are learning to/that	Student Strategies	Formative Assessment	Activities and Resources	Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections

<p><b>2.OA.A.1 –</b> WALT represent a word problem with drawings and equations using a symbol for the unknown</p>	<ul style="list-style-type: none"> <li>Assess information in a word problem, decide what question is to be solved, and develop a plan for finding a solution</li> </ul>	<ul style="list-style-type: none"> <li>Exit ticket: Have students draw to solve word problems</li> </ul>	<p>Students create their own addition and subtraction word problems and model solving the problems by drawing a picture and writing a number sentence</p>	<ul style="list-style-type: none"> <li>General and Special Education teachers will work together to provide students with the support they need as written in their individualized education plan</li> </ul>
<p><b>2.OA.A.1 –</b> WALT solve one and two-step addition and subtraction word problems within 20 involving situations of adding to, taking from, putting together, taking apart, and comparing</p>	<ul style="list-style-type: none"> <li>Recognize which operation to utilize in order to solve word problems based on knowledge of key vocabulary found in the problem</li> </ul>	<ul style="list-style-type: none"> <li>Operation-key vocabulary matching worksheet</li> <li>Exit ticket - solve problem using C.U.B.E.S strategy</li> </ul>	<p>Practice identifying key vocabulary words in order to identify which operation to utilize in order to solve a word problem</p> <p>Provide students with an anchor chart with key vocabulary listed for each operation</p> <p>Utilize the C.U.B.E.S. strategy to solve word problems (Circle numbers, Underline the question, Box in key words, Examine the information, Solve the problem)</p>	
<p><b>2.NBT.B.7 –</b> WALT when adding and subtracting three-digit numbers, only digits in the same place value can be added or subtracted to or from each other</p>	<ul style="list-style-type: none"> <li>Apply knowledge of place value based on the understanding of hundreds, tens, and ones representing different values</li> </ul>	<ul style="list-style-type: none"> <li>Exit ticket: Solve problems with regrouping</li> </ul>	<p>Students practice lining up the 2 three-digit numbers in a hundreds, tens, and one T-Chart to help understand that only numbers in the same column can be added or subtracted</p>	
<p><b>2.NBT.B.7 –</b> WALT when adding and subtracting three-digit numbers,</p>	<ul style="list-style-type: none"> <li>Develop an understanding of when regrouping is required in an addition or subtraction</li> </ul>	<ul style="list-style-type: none"> <li>Student/teacher conferencing: student explains in words whether regrouping is needed and</li> </ul>	<p>Through the use of base ten blocks or drawings, students correlate 10 ones creating a new group of 10 when adding the ones place, as well as a group of 10 tens creating a new group of 100 when adding the tens place</p>	

<p>sometimes it is necessary to compose or decompose tens and/or hundreds</p>	<p><i>problem</i></p>	<ul style="list-style-type: none"> <li>• <i>Students create individual anchor charts that model when to regroup and how</i></li> </ul>	<p><i>Through the use of base ten blocks or drawings, students represent the larger of two 3-digit numbers as the top number in a subtraction problem</i></p> <p><i>Through the use of base ten blocks or drawings, students practice identifying a smaller digit on the bottom in the ones and/or tens place, which then requires regrouping</i></p> <p><i>Create anchor charts modeling each step of regrouping in both addition and subtraction</i></p> <p><i>Provide checklist for solving subtraction problems with regrouping</i></p> <p><i>Use the following poem:</i></p> <p><i>If there is more on top, that means stop. If there is more on the floor, go next door.</i></p>	
<p><b>2.NBT.B.7 –</b> WALT use concrete models and a place value strategy to add and subtract within 1000, and relate the written strategy to the model</p>	<ul style="list-style-type: none"> <li>• <i>Solve problems by quickly using manipulatives or drawing pictures to solve problems</i></li> <li>• <i>Explain how the manipulatives or pictures show the math needed to solve the problem</i></li> <li>• <i>Apply model reasoning to standard algorithm</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>ECR in which students model, solve, and explain in written word</i></li> </ul>	<p><i>Demonstrate regrouping using base ten blocks and drawings to model how to solve problems</i></p> <p><i>Utilize the Go Math Interactive Lessons to model regrouping</i></p>	
<p><b>2.NBT.B.7 –</b> WALT use drawings and a place value strategy to add and subtract within 1000, and relate the written strategy to the drawing</p>				

<p><b>2.NBT.B.7 –</b> WALT use concrete models and a strategy based on properties of operations and/or the relationship between addition and subtraction to add and subtract within 1000, and relate the written strategy to the model</p>		<ul style="list-style-type: none"> <li>• <i>Have students model or draw how to solve a subtraction problem and then use addition to check their work</i></li> </ul>		
<p><b>2.NBT.B.7 –</b> WALT use drawings and a strategy based on properties of operations and/or the relationship between addition and subtraction to add and subtract within 1000, and relate the written strategy to the drawing</p>				
<p><b>2.NBT.B.8 –</b> WALT mentally add or subtract 10 to or from any given number between 100 and 900</p>	<ul style="list-style-type: none"> <li>• <i>Apply knowledge of number patterns to mentally add or subtract a digit from the tens place</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Give students a number and have them provide the number for 10 more or 10 less</i></li> </ul>	<p><i>Practice addition and subtraction of tens with games</i> <i>Practice adding or subtracting 10 by continuing a list of numbers (e.g. 12, 22)</i></p>	
<p><b>2.NBT.B.8 –</b></p>	<ul style="list-style-type: none"> <li>• <i>Apply knowledge of</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Give students a</i></li> </ul>	<p><i>Practice addition and subtraction of</i></p>	

<p><b>WALT</b> mentally add or subtract 100 to or from any given number between 100 and 900</p>	<p><i>number patterns to mentally add or subtract a digit from the hundreds place</i></p>	<p><i>number and have them provide the number for 100 more or 100 less</i></p>	<p><i>hundreds with games</i>  <i>Practice adding or subtracting 100 by continuing a list of numbers (e.g. 200, 300)</i></p>	
<p><b>2.NBT.B.9 –</b>  <b>WALT</b> explain why addition and subtraction strategies work based on place value</p>	<ul style="list-style-type: none"> <li>Apply understanding of place value to explain what they are doing during each step of an addition or subtraction problem</li> </ul>	<ul style="list-style-type: none"> <li>Student/teacher conferencing</li> </ul>	<ul style="list-style-type: none"> <li>Use ECR's to practice explaining how to solve a given problem</li> <li>Peer Partner "Turn and Talk"</li> </ul>	
<p><b>2.NBT.B.9 –</b>  <b>WALT</b> explain why addition and subtraction strategies work based on properties of operations</p>	<ul style="list-style-type: none"> <li>Apply understanding of the part/part/whole concept through drawings, equations, or written explanation</li> </ul>	<ul style="list-style-type: none"> <li>Exit ticket: Students solve a problem by filling in bar model</li> </ul>	<p>Use a Bar Model to model and solve addition and subtraction problems based on Part, Part, Whole</p>	
<p><b>2.OA.B.2 –</b>  <b>WALT</b> know from memory all sums of two one-digit numbers within ten</p>	<ul style="list-style-type: none"> <li>Utilize mental math strategies within 10 to memorize sums</li> </ul>	<ul style="list-style-type: none"> <li>Quiz students using flashcards or timed interactive fact game</li> </ul>	<p>Practice addition and subtraction facts using flash cards or Xtra Math online  <a href="https://xtramath.org/#/home/index">https://xtramath.org/#/home/index</a>            Fact Champ game</p>	
<p><b>2.OA.B.2</b> add and subtract within 20 using mental strategies, working towards accuracy and efficiency</p>	<ul style="list-style-type: none"> <li>Utilize mental math strategies within 20 to memorize sums</li> </ul>	<ul style="list-style-type: none"> <li>Quiz students using flashcards or timed interactive fact game</li> </ul>	<p>Practice addition and subtraction facts using flash cards or Xtra Math online  <a href="https://xtramath.org/#/home/index">https://xtramath.org/#/home/index</a>            Fact Champ game</p>	

**Benchmark Assessment 1**

<b>Benchmark Assessment</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>
	Modifications per IEPs

**Benchmark Assessment 2**

<b>Benchmark Assessment</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>
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**Summative Assessments (add rows as needed)**

<b>Summative Assessment</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>
	Modifications per IEPs



**Interdisciplinary Connections**

<b>Interdisciplinary Connections</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>
	Modifications per IEPs

**Unit Title: *Counting, Addition and Subtraction Strategies* Unit 2 – Module A**

**Grade level: Grade 2**

**Timeframe:**

**Rationale**

*Grade 2 – Counting, Addition and Subtraction Strategies - Unit 2*

*Continuing the counting sequence of Unit 1, learners skip count by hundreds and continue to develop skills counting within 1000. They partition rectangle into rows and columns of same-size squares and skip count to find the total. Learners use repeated addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns, laying the foundation for multiplication in grade 3. They tell and write time to the nearest five minutes, building on their grade 1 work telling and writing time in hours and half-hours.*

*The major focus of Unit 2 is reinforcing addition and subtraction concepts in a variety of contexts. Learners are introduced to money concepts and solve word problems involving dollar bills, quarters, dimes, nickels, and pennies. They solve one- and two-step word problems, add up to four two-digit numbers, pursue fluency for addition and subtraction within 20 using mental strategies, and pursue fluency for addition and subtraction within 100 using various strategies such as properties of operations.*

**Essential Questions**

**Standards**

## Standards (Taught and Assessed):

- **2.NBT.A.2** Count within 1000; skip-count by 5s, 10s, and 100s.
- ◎ **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.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.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.MD.C.7** Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
- **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?*

Key: ■ Major Cluster

□ Supporting Cluster

◎ Additional Cluster

## Highlighted Career Ready Practices and 21<sup>st</sup> Century Themes/Skills

- 9.1.4.A.1 Recognize a problem and brainstorm ways to solve the problem individually or collaboratively.
- 9.1.4.A.2 Evaluate available resources that can assist in solving problems.
- 9.1.4.A.5 Apply critical thinking and problem-solving skills in classroom and family settings.
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.

## Social-Emotional Learning Competencies

- Self-Awareness
- Self-Management
- Social Awareness
- Relationship Skills
- Responsible Decision-Making

## Instructional Plan

### Pre-Assessment and Reflection

<b>Pre-Assessment</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>

### Student Learning Objectives (SLO), Strategies, Formative Assessment, Activities and Resources (add rows as needed)

SLO – WALT	Student Strategies	Formative Assessment	Activities and Resources	Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections
<p><b>We are learning to/that</b></p>				
<p><b>2.NBT.A.2 – WALT</b> count within 1000</p>	<ul style="list-style-type: none"> <li>Recognize and apply number sequence</li> </ul>	<ul style="list-style-type: none"> <li>Use hundreds chart with missing numbers (choose a group of a hundred to assess)</li> </ul>	<ul style="list-style-type: none"> <li>Skip Count By 5's</li> <li>Skip Count By 10's</li> <li>Skip Count By 100's</li> <li>Using manipulatives (snap cubes, legos, pennies, cereal, beans, etc.) in groups of 5, 10 and 100 to make a connection to the numbers highlighted on a chosen hundreds chart</li> <li>Create task cards for independent work or center time. Write a 3-digit # on each card with directions for what to practice</li> </ul>	<p>General and Special Education teachers will work together to provide students with the support they need as written in their individualized education plan</p>
<p><b>2.NBT.A.2 – WALT</b> skip count by fives</p>	<ul style="list-style-type: none"> <li>Recognize and apply number patterns</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket - continue the pattern within a group of hundreds (e.g. 605, 610, ___)</li> </ul>		
<p><b>2.NBT.A.2 – WALT</b> skip count by tens</p>	<ul style="list-style-type: none"> <li>Recognize and apply number patterns</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket - continue the pattern within a group of hundreds (e.g. 770, 780, ___)</li> </ul>		

<p><b>2.NBT.A.2 – WALT</b> skip count by hundreds</p>	<ul style="list-style-type: none"> <li>Recognize and apply number patterns</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket - continue the pattern up to 1,000 (e.g. 700, 800, _____)</li> </ul>	<ul style="list-style-type: none"> <li>counting by (5's, 10's, 100's)</li> <li>Write 3 digit #'s on bottle caps that count by 5's, 10's, 100's and have students practice putting the numbers in order.</li> </ul>	
<p><b>2.G.A.2 – WALT</b> partition a rectangle into rows and columns of same-size squares and count to find the total number of same size squares</p>	<ul style="list-style-type: none"> <li>Recall and apply the pattern of a row and column</li> </ul>	<ul style="list-style-type: none"> <li>Observe student product and labeling when folding creating their folded rectangles</li> </ul>	<ul style="list-style-type: none"> <li>Fold post-it notes or sheet of paper to make the required number of partitions and then number the squares formed to find the total number of squares.</li> <li>Make connections to cutting brownies and/or lasagna into enough pieces for a set number of people</li> </ul>	
<p><b>2.OA.C.4 – WALT</b> use repeated addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns</p>	<ul style="list-style-type: none"> <li>Utilize visual patterns of arrays to show repeated addition</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket - provide a model of an array with the task of creating an equation using repeated addition</li> </ul>	<ul style="list-style-type: none"> <li>Use cubes/counters to arrange arrays into columns and rows to model repeated addition, then write a repeated addition number sentence</li> </ul>	
<p><b>2.OA.C.4 – WALT</b> write an equation to express the total number of objects arranged in a rectangular array as a sum of equal addends</p>	<ul style="list-style-type: none"> <li>Recall and apply knowledge of the parts of an equation</li> <li>Recall and apply knowledge of addends</li> </ul>		<ul style="list-style-type: none"> <li>Write the Room - students visit different arrays and make a number sentence for each one</li> </ul>	
<p><b>2.OA.C.3 – WALT</b> determine whether a group of objects up to 20 is odd</p>	<ul style="list-style-type: none"> <li>Recognize that numbers are even when they make pairs</li> </ul>	<ul style="list-style-type: none"> <li>Observe student product as pairs are made with snap</li> </ul>	<ul style="list-style-type: none"> <li>Even and Odd B-I-N-G-O Song</li> <li>Math Literature,</li> </ul>	

<p>or even (e.g., by pairing objects, counting them by 2s)</p>	<p>and odd when there are leftovers</p>	<p>uses for a provided number and student explains if model is even or odd</p>	<p><u>Even Steven and Odd Todd</u></p> <ul style="list-style-type: none"> <li>Use snap cubes to make pairs in order to determine if a number is even or odd</li> </ul>	
<p><b>2.OA.C.3 – WALT</b> write an equation to express an even number as a sum of two equal addends</p>	<ul style="list-style-type: none"> <li>Recognize that when added together, doubles facts equal a sum of even numbers</li> </ul>	<ul style="list-style-type: none"> <li>Observe student product as they model doubles facts with snap cubes and explain the sum as even</li> </ul>	<ul style="list-style-type: none"> <li>Use snap cubes to model doubles facts to recognize the sum of equal addends as even</li> </ul>	
<p><b>2.MD.C.7 – WALT</b> use analog and digital clocks to tell time to the nearest five minutes using a.m. and p.m.</p>	<ul style="list-style-type: none"> <li>Recognize what each number on an analog clock represents</li> <li>Understand the difference between the hour and minute hand on an analog clock</li> <li>Recognize that there are 24 hours in a day, 12 being a.m. and 12 being p.m. and be able to distinguish between the 2</li> </ul>	<ul style="list-style-type: none"> <li>Draw hour and minute hands on clocks to demonstrate the correct time to the nearest 5 minutes</li> <li>Label a clock with the correct digits and values of each 5 minute increment</li> <li>Answer questions by telling whether the activity would happen in the a.m. or p.m. hours</li> </ul>	<ul style="list-style-type: none"> <li><u>Telling Time to the Nearest 5 Minutes</u></li> <li><u>Learning the Clock</u></li> <li>Use mini clocks (or create mini clocks) to model time to the nearest five minutes</li> <li>Draw a line down a piece of paper and write the 12 a.m. hours on one side and the 12 p.m. hours on the other side. Have students fill in what they do each day during the times</li> </ul>	
<p><b>2.MD.C.8 – WALT</b> determine the total amount of money by counting combinations of dollar bills, quarters, dimes, nickels, and pennies using the \$ and ¢ symbols appropriately</p>	<ul style="list-style-type: none"> <li>Recognize and apply values of dollar bills, quarters, dimes, nickels, and pennies</li> <li>Apply the \$ and ¢ symbols in the correct location</li> </ul>	<ul style="list-style-type: none"> <li>Show a value asked for by modeling with play money</li> <li>Form a grocery store list and choose items from a store ad, spending only a given amount of money</li> </ul>	<ul style="list-style-type: none"> <li><u>The Money Song</u></li> <li><u>Learning About Money</u></li> <li>Count various amounts of play money or pictures of money to determine the value of each group, then write the</li> </ul>	

<p><b>2.MD.C.8 – WALT</b> solve word problems involving dollar bills, quarters, dimes, nickels, and pennies using the \$ and ¢ symbols appropriately</p>	<ul style="list-style-type: none"> <li>• Use knowledge of the values of dollar bills, quarters, dimes, nickels, and pennies to solve word problems in which they have to add and subtract values of money</li> <li>• Recall and apply knowledge of place value</li> </ul>	<ul style="list-style-type: none"> <li>• Exit Ticket- addition and subtraction word problems involving money</li> </ul>	<ul style="list-style-type: none"> <li>• Create and solve word problems involving money</li> <li>• Create a class store, label items with various prices using \$ and ¢ symbols appropriately</li> </ul>	<p>amounts using \$ and ¢ symbols</p>
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**Benchmark Assessment 1**

<p><b>Benchmark Assessment</b></p>	<p><b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b></p>
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**Benchmark Assessment 2**

<p><b>Benchmark Assessment</b></p>	<p><b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b></p>
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**Summative Assessments (add rows as needed)**

<p><b>Summative Assessment</b></p>	<p><b>Modifications (ELL, Special Education, Gifted, At-risk of Failure,</b></p>
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	<b>504) and Reflections</b>

**Interdisciplinary Connections**

<b>Interdisciplinary Connections</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>

**Unit Title: Mathematics Place Value and Three Digit Addition and Subtraction Strategies – Unit 2 – Module B**

**Grade level: Grade 2**

**Timeframe:**

**Rationale**

*Grade 2 – Counting, Addition and Subtraction Strategies - Unit 2*

*Continuing the counting sequence of Unit 1, learners skip count by hundreds and continue to develop skills counting within 1000. They partition rectangle into rows and columns of same-size squares and skip count to find the total. Learners use repeated addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns, laying the foundation for*



*multiplication in grade 3. They tell and write time to the nearest five minutes, building on their grade 1 work telling and writing time in hours and half-hours.*

*The major focus of Unit 2 is reinforcing addition and subtraction concepts in a variety of contexts. Learners are introduced to money concepts and solve word problems involving dollar bills, quarters, dimes, nickels, and pennies. They solve one- and two-step word problems, add up to four two-digit numbers, pursue fluency for addition and subtraction within 20 using mental strategies, and pursue fluency for addition and subtraction within 100 using various strategies such as properties of operations.*

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## Essential Questions

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## Standards

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### Standards (Taught and Assessed):

- **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.
- **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.
- **2.NBT.B.6** Add up to four two-digit numbers using strategies based on place value and 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.

**Key:** ■ Major Cluster    □ Supporting Cluster    © Additional Cluster

## Highlighted Career Ready Practices and 21<sup>st</sup> Century Themes/Skills

- 9.1.4.A.1 Recognize a problem and brainstorm ways to solve the problem individually or collaboratively.
- 9.1.4.A.2 Evaluate available resources that can assist in solving problems.
- 9.1.4.A.5 Apply critical thinking and problem-solving skills in classroom and family settings.
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.

## Social-Emotional Learning Competencies

- Self-Awareness
- Self-Management
- Social Awareness
- Relationship Skills
- Responsible Decision-Making

## Instructional Plan

### Pre-Assessment and Reflection

Pre-Assessment	Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections

### Student Learning Objectives (SLO), Strategies, Formative Assessment, Activities and Resources (add rows as needed)

SLO – WALT	Student Strategies	Formative Assessment	Activities and Resources	Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections
We are learning to/that				

<p><b>2.OA.B.2 – WALT add</b> and subtract within 20 using mental strategies, working towards accuracy and efficiency</p>	<ul style="list-style-type: none"> <li>Recall from memory basic addition and subtraction facts</li> </ul>	<ul style="list-style-type: none"> <li>Math Fact Quizzes (timed or not timed)</li> </ul>	<ul style="list-style-type: none"> <li>XtraMath online resource for practicing math facts</li> <li>Practice addition and subtraction facts with flash cards</li> <li>Fact Champ Game: Students stand in 2 lines, teacher holds up a math fact flash card and whoever shouts the fact out first goes to the end of the line to continue the game, the other person is out</li> <li>Have students quiz each other on their math facts</li> <li>Model math facts with manipulatives</li> </ul>	<p>General and Special Education teachers will work together to provide students with the support they need as written in their individualized education plan</p>
<p><b>2.NBT.B.5 – WALT add</b> and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction working towards accuracy and efficiency</p>	<ul style="list-style-type: none"> <li>Recall and apply counting patterns</li> <li>Recall and apply an understanding of place value within 2-digit numbers</li> <li>Recall and apply an understanding of fact families</li> </ul>	<ul style="list-style-type: none"> <li>Observe student product when completing a fact family triangle</li> <li>Exit Ticket - a mix of addition and subtraction problems to solve</li> </ul>	<ul style="list-style-type: none"> <li>BrainPop Jr. Fact Families</li> <li>Create a Fact Family House to model related addition and subtraction facts</li> <li>Put a drawing/model of a fact family triangle with 2 blank addition sentences and 2 blank subtraction number sentences in sheet protectors. Then give students 3 numbers that are related facts, and have students use dry erase markers to write the correct addition and subtraction facts for the related facts/fact family</li> </ul>	
<p><b>2.NBT.B.6 – WALT add</b></p>	<ul style="list-style-type: none"> <li>Recall basic addition</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket - provide</li> </ul>	<ul style="list-style-type: none"> <li>Adding Multiple Digit</li> </ul>	

up to four two-digit numbers using place value strategies and properties of operations	<ul style="list-style-type: none"> <li>and subtraction facts</li> <li>Recognize that numbers need to be aligned according to place value when adding and subtracting</li> </ul>	<ul style="list-style-type: none"> <li>2 to 3 addition problems with four two-digit numbers as addends</li> </ul>	<ul style="list-style-type: none"> <li>Numbers</li> <li>Practice adding up to four two-digit numbers using task cards with various addition facts in small groups or pairs</li> </ul>	
<b>2.OA.A.1 – WALT</b> represent a word problem using drawings and equations using a symbol for the unknown	<ul style="list-style-type: none"> <li>Recognize a missing number in a number sentence/equation</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket - provide a word problem for students to write an equation for</li> </ul>	<ul style="list-style-type: none"> <li>Create addition and subtraction word problems with drawings to match the equations</li> </ul>	
<b>2.OA.A.1 – WALT</b> solve one and two-step addition and subtraction word problems within 100 involving situations of adding to, taking from, putting together, taking apart, and comparing	<ul style="list-style-type: none"> <li>Recognize step 1 in a problem.</li> <li>Recognize step 2 in a problem</li> <li>Apply addition and subtraction strategies in order to solve one and two-step word problems</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation as one and two-step word problems are solved</li> <li>Ask students to explain why an operation is necessary to solve</li> </ul>	<ul style="list-style-type: none"> <li>Practice solving one and two-step addition and subtraction word problems within 100 using task cards with various word problems in small groups or pairs. Students decide which operation to use to solve the word problem (addition or subtraction)</li> </ul>	

**Benchmark Assessment 1**

<b>Benchmark Assessment</b>		<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>	

**Benchmark Assessment 2**

<b>Benchmark Assessment</b>		<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>	

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**Summative Assessments (add rows as needed)**

<b>Summative Assessment</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>

**Interdisciplinary Connections**

<b>Interdisciplinary Connections</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>

**Unit Title: Mathematics Measuring Length – Unit 3 – Module A**

**Grade level: Grade 2**

**Timeframe:**



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## Rationale

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### *Grade 2 – Measuring Length – Unit 3*

The major focus of Unit 3 is reinforcing addition and subtraction concepts and strategies. Learners continue to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing. They use concrete models and drawings to develop conceptual understanding of addition and subtraction within 1000 and again use repeated addition to find the total number of objects arranged in rectangular arrays to solidify the foundation for multiplication in grade 3.

Grade 1 learners measured objects by laying multiple copies of a shorter object and expressed the length of an object as a whole number of length units. In this unit, grade 2 learners measure the length of an object directly by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. They estimate, compare, and represent lengths on the number line. The unit concludes as learners use addition and subtraction within 100 to solve word problems involving lengths.

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## Essential Questions

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## Standards

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### Standards (Taught and Assessed):

- **2.OA.A.1** Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
- **2.NBT.B.7** Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; 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.A.2** Count within 1000; skip-count by 5s, 10s, and 100s.
- **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.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.

Key: ■ Major Cluster    □ Supporting Cluster    ◎ Additional Cluster

### Highlighted Career Ready Practices and 21<sup>st</sup> Century Themes/Skills

- 9.1.4.A.1 Recognize a problem and brainstorm ways to solve the problem individually or collaboratively.
- 9.1.4.A.2 Evaluate available resources that can assist in solving problems.
- 9.1.4.A.5 Apply critical thinking and problem-solving skills in classroom and family settings.
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.

### Social-Emotional Learning Competencies

- Self-Awareness
- Self-Management
- Social Awareness
- Relationship Skills
- Responsible Decision-Making

## Instructional Plan

### Pre-Assessment and Reflection

Pre-Assessment	Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections

**Student Learning Objectives (SLO), Strategies, Formative Assessment..., Activities and Resources (add rows as needed)**

SLO – WALT We are learning to/that	Student Strategies	Formative Assessment	Activities and Resources	Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections
<p><b>2.OA.A.1 - WALT</b> represent a word problem using drawings and equations using a symbol for the unknown</p>	<ul style="list-style-type: none"> <li>Recognize a missing number in a number sentence/equation</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket - provide a word problem for students to write an equation for</li> </ul>	<ul style="list-style-type: none"> <li>Create addition and subtraction word problems with drawings to match the equations</li> </ul>	<p>General and Special Education teachers will work together to provide students with the support they need as written in their individualized education plan</p>
<p><b>2.OA.A.1 – WALT</b> solve one and two-step addition and subtraction word problems within 100 involving situations of adding to, taking from, putting together, taking apart, and comparing</p>	<ul style="list-style-type: none"> <li>Recognize step 1 in a problem.</li> <li>Recognize step 2 in a problem</li> <li>Apply addition and subtraction strategies in order to solve one and two-step word problems</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation as one and two-step word problems are solved</li> <li>Ask students to explain why an operation is necessary to solve</li> </ul>	<ul style="list-style-type: none"> <li>Practice solving one and two-step addition and subtraction word problems within 100 using task cards with various word problems in small groups or pairs. Students decide which operation to use to solve the word problem (addition or subtraction)</li> </ul>	
<p><b>2.NBT.B.7 – WALT</b> use concrete models and a place value strategy to add and subtract within 1000, and relate the written strategy to the model</p>	<ul style="list-style-type: none"> <li>Solve problems by quickly using manipulatives or drawing pictures to solve problems</li> <li>Explain how the manipulatives or pictures show the math needed to solve the problem</li> <li>Apply model reasoning to standard algorithm</li> </ul>	<ul style="list-style-type: none"> <li>ECR in which students model, solve, and explain in written word</li> <li>Have students model or draw how to solve a subtraction problem and then use addition to check their work</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate regrouping using base ten blocks and drawings to model how to solve problems</li> <li>Utilize the Go Math Interactive Lessons to model regrouping</li> <li>Provide students with a regrouping checklist for both addition and</li> </ul>	
<p><b>2.NBT.B.7 – WALT</b> use drawings and a place value strategy to add and subtract within 1000, and relate the written strategy to the</p>				



drawing			subtraction	
<p><b>2.NBT.B.7 – WALLT</b> use concrete models and a strategy based on properties of operations and/or the relationship between addition and subtraction to add and subtract within 1000, and relate the written strategy to the model</p>				
<p><b>2.NBT.B.7 – WALLT</b> use drawings and a strategy based on properties of operations and/or the relationship between addition and subtraction to add and subtract within 1000, and relate the written strategy to the drawing</p>				
<p><b>2.NBT.A.2 – WALLT</b> count within 1000</p>	<ul style="list-style-type: none"> <li>Recall the value of a digit based upon a place in a number</li> </ul>	<ul style="list-style-type: none"> <li>Roll a die 3x to create a 3-digit number - read number aloud, write in standard, expanded, and word form.</li> </ul>	<ul style="list-style-type: none"> <li>Practice connecting a digit's place in a 3-digit number to its value (highlighted or underlined digit)</li> <li>Draw base-ten blocks to represent a 3 digit number - practice writing values of each digit as an addition sentence (expanded form)</li> <li>Utilize number spellings reference sheet to assist in a 3-digit # being written in word form</li> </ul>	

<p><b>2.NBT.A.2 – WALT</b> skip count by fives</p>	<ul style="list-style-type: none"> <li>Recognize and apply number patterns</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket - continue the pattern within a group of hundreds (e.g. 605, 610, ___)</li> </ul>	<ul style="list-style-type: none"> <li><u>Skip Count By 5's</u></li> <li><u>Skip Count By 10's</u></li> <li><u>Skip Count By 100's</u></li> <li>Using manipulatives (snap cubes, legos, pennies, cereal, beans, etc.) in groups of 5, 10 and 100 to make a connection to the numbers highlighted on a chosen hundreds chart</li> </ul>	
<p><b>2.NBT.A.2 – WALT</b> skip count by tens</p>	<ul style="list-style-type: none"> <li>Recognize and apply number patterns</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket - continue the pattern within a group of hundreds (e.g. 770, 780, ___)</li> </ul>	<ul style="list-style-type: none"> <li>Create task cards for independent work or center time. Write a 3-digit # on each card with directions for what to practice counting by (5's, 10's, 100's)</li> <li>Write 3 digit #'s on bottle caps that count by 5's, 10's, 100's and have students practice putting the numbers in order.</li> </ul>	
<p><b>2.NBT.A.2 – WALT</b> skip count by hundreds</p>	<ul style="list-style-type: none"> <li>Recognize and apply number patterns</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket - continue the pattern up to 1,000 (e.g. 700, 800, ___)</li> </ul>	<ul style="list-style-type: none"> <li>Use cubes/counters to arrange arrays into columns and rows to model repeated addition, then write a repeated addition number sentence</li> </ul>	
<p><b>2.OA.C.4 – WALT</b> use repeated addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns</p>	<ul style="list-style-type: none"> <li>Utilize visual patterns of arrays to show repeated addition</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket - provide a model of an array with the task of creating an equation using repeated addition</li> </ul>	<ul style="list-style-type: none"> <li>Write the Room - students visit different arrays and make a number sentence for each one</li> </ul>	
<p><b>2.OA.C.4 – WALT</b> write an equation to express the total number of objects arranged in a rectangular array as a sum of equal</p>	<ul style="list-style-type: none"> <li>Recall and apply knowledge of the parts of an equation</li> <li>Recall and apply knowledge of addends</li> </ul>			

addends				
<b>2.NBT.B.5 –</b> <b>WALT</b> add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction, working towards accuracy and efficiency	<ul style="list-style-type: none"> <li>Recall and apply counting patterns</li> <li>Recall and apply an understanding of place value within 2-digit numbers</li> <li>Recall and apply an understanding of fact families</li> </ul>	<ul style="list-style-type: none"> <li>Observe student product when completing a fact family triangle</li> <li>Exit Ticket - a mix of addition and subtraction problems to solve</li> </ul>	<ul style="list-style-type: none"> <li><u>BrainPop Jr. Fact Families</u></li> <li>Create a Fact Family House to model related addition and subtraction facts</li> <li>Put a drawing/model of a fact family triangle with 2 blank addition sentences and 2 blank subtraction number sentences in sheet protectors. Then give students 3 numbers that are related facts, and have students use dry erase markers to write the correct addition and subtraction facts for the related facts/fact family</li> </ul>	

**Benchmark Assessment 1**

<b>Benchmark Assessment</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>

**Benchmark Assessment 2**

<b>Benchmark Assessment</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>

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**Summative Assessments (add rows as needed)**

Summative Assessment	Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections

**Interdisciplinary Connections**

Interdisciplinary Connections	Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections

**Unit Title: Mathematics Measuring Length – Unit 3 – Module B**

**Grade level: Grade 2**

## Timeframe:

## Rationale

### *Grade 2 – Measuring Length – Unit 3*

The major focus of Unit 3 is reinforcing addition and subtraction concepts and strategies. Learners continue to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing. They use concrete models and drawings to develop conceptual understanding of addition and subtraction within 1000 and again use repeated addition to find the total number of objects arranged in rectangular arrays to solidify the foundation for multiplication in grade 3.

Grade 1 learners measured objects by laying multiple copies of a shorter object and expressed the length of an object as a whole number of length units. In this unit, grade 2 learners measure the length of an object directly by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. They estimate, compare, and represent lengths on the number line. The unit concludes as learners use addition and subtraction within 100 to solve word problems involving lengths.

## Essential Questions

## Standards

### Standards (Taught and Assessed):

- **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.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.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.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.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.

Key:  Major Cluster     Supporting Cluster     Additional Cluster

### Highlighted Career Ready Practices and 21<sup>st</sup> Century Themes/Skills

- 9.1.4.A.1 Recognize a problem and brainstorm ways to solve the problem individually or collaboratively.
- 9.1.4.A.2 Evaluate available resources that can assist in solving problems.
- 9.1.4.A.5 Apply critical thinking and problem-solving skills in classroom and family settings.
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.

### Social-Emotional Learning Competencies

- Self-Awareness
- Self-Management
- Social Awareness
- Relationship Skills
- Responsible Decision-Making

<b>Instructional Plan</b>	
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#### Pre-Assessment and Reflection

<b>Pre-Assessment</b>		<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>

Student Learning Objectives (SLO), Strategies, Formative Assessment, Activities and Resources (add rows as needed)

SLO – WALT We are learning to/that	Student Strategies	Formative Assessment	Activities and Resources	Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections
<p><b>2.MD.A.1 – WALT</b> measure lengths of objects after selecting appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes</p>	<ul style="list-style-type: none"> <li>Recall and apply where to start measuring an object and when to stop measuring an object.</li> <li>Recognize a ruler as a tool to measure short lengths, a yardstick, meter stick and a measuring tape as tools to measure long lengths, and a measuring tape as a tool to measure a curved object.</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation of student use of appropriate measuring tool as students identify objects and the appropriate tool.</li> <li>Teacher observation as students "Write the Room" in <u>Measuring Penny</u> following activity in which students measure objects belonging to Penny, such as a dog bowl, dog house, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Identify the appropriate measuring tool for a variety of real world objects, such as a garbage can, a fence, and the top of a desk.</li> <li>Measure objects found in the classroom or at home using rulers, yardsticks, meter sticks, and measuring tapes.</li> <li>Math Literature - <u>Measuring Penny</u> by Loreen Leedy</li> </ul>	<p>General and Special Education teachers will work together to provide students with the support they need as written in their individualized education plan</p>
<p><b>2.MD.A.3 – WALT</b> estimate lengths of objects using the units of inches, feet, centimeters, or meters</p>	<ul style="list-style-type: none"> <li>Recall estimation as making an educated guess.</li> <li>Recall and apply knowledge of how long an inch, foot, centimeter, or meter are.</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation as students estimate the length of classroom objects using modeled real world tools (first knuckle to the tip of thumb is an inch, from the elbow to the wrist is a foot, from the left to right on the pinky nail is a cm and a baseball bat is a meter).</li> </ul>	<ul style="list-style-type: none"> <li>Model real world objects as a means for estimating - first knuckle to the tip of thumb is an inch, from the elbow to the wrist is a foot, from the left to right on the pinky nail is a cm and a baseball bat is a meter.</li> <li>Estimate the lengths of objects in the classroom or at home.</li> <li>Measurement Olympics - students visit different stations</li> </ul>	

			<p><i>to estimate and then measure at each station; give out medals to the winners at each station</i></p>	
<p><b>2.MD.A.4 – WALT</b> measure to determine how much longer one object is than the other and express the difference in length using a standard unit of length</p>	<ul style="list-style-type: none"> <li>Recognize that each object must be measured using the same tool and unit of length.</li> <li>Recall and apply how to compare numbers as greater than and less than.</li> <li>Recall and apply a difference as the answer to a subtraction problem.</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket - provide a picture of two objects of different lengths. Students measure each object and then provide and solve a subtraction sentence for the difference.</li> </ul>	<ul style="list-style-type: none"> <li>Gummy Worm Stretch activity- students measure a gummy worm and then stretch the gummy worm as far as it will go. They then measure it again and write a subtraction sentence to find the difference between the two lengths.</li> <li>Put students in pairs and have them measure different objects of different lengths; students create a subtraction sentence to find the difference between the two objects</li> </ul>	
<p><b>2.MD.A.2 – WALT</b> measure the length of an object twice using different units of measure</p>	<ul style="list-style-type: none"> <li>Recognize that when measuring the same object, the smaller the unit of measurement, the larger the number of units.</li> <li>Recognize that when measuring the same object, the larger the unit of measurement, the smaller the number of units.</li> </ul>	<ul style="list-style-type: none"> <li>High Horse Activity - observe as students complete</li> </ul>	<ul style="list-style-type: none"> <li>Measure objects using centimeters and inches and compare the measurement numbers to see which unit of measurement is larger and which is smaller.</li> </ul>	
<p><b>2.MD.A.2 – WALT</b> describe how two different measurements of an object relate to the size of the measurement unit chosen</p>				



<p><b>2.MD.A.5 – WALT</b> add and subtract within 100 to solve word problems that involve lengths of the same units</p>	<ul style="list-style-type: none"> <li>Recognize key vocabulary terms in a word problem for addition (altogether, in total, etc.) and subtraction (gave away, remove, etc.)</li> <li>Recall and apply addition and subtraction facts.</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket - solve addition and subtraction word problems that involve equations where students have to add or subtract numbers in inches or centimeters</li> </ul>	<p>Write word problems using key vocabulary words for addition and subtraction.</p> <p>Practice math facts using flashcards or Xtramath online program  <a href="https://xtramath.org/#/home/index">https://xtramath.org/#/home/index</a></p>	
<p><b>2.MD.A.5 – WALT</b> use equations with a symbol for the unknown and drawings, such as drawings of rulers, to represent the problem</p>	<ul style="list-style-type: none"> <li>Recognize what is missing within a word problem, such as the sum, the difference, or an addend.</li> <li>Recognize that there are 12 inches in a ruler when drawing a ruler to represent the problem.</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket-solve addition and subtraction problems using Part, Part, Whole (Bar Model)</li> </ul>	<ul style="list-style-type: none"> <li>Model and use Part, Part, Whole (Bar Model) to solve word problems where students need to find the unknown number and represent it with a symbol.</li> </ul>	
<p><b>2.MD.A.6 – WALT</b> use equally spaced points of a number line to represent whole numbers as lengths from 0</p>	<ul style="list-style-type: none"> <li>Apply knowledge of whole numbers to draw a number line starting at different points, such as 30-45.</li> <li>Recognize that a sum on a number line can be found by counting forward.</li> <li>Recognize that a difference on a number line can be found by counting backward.</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket-solve addition problems by counting forward on a number line</li> <li>Exit Ticket-solve subtraction problems by counting back on a number line</li> </ul>	<ul style="list-style-type: none"> <li>Draw a number line, writing numbers between a set of 10 (example: 30-40).</li> <li>Jump forward on a number line to count forward to find the sum of an addition problem.</li> <li>Jump backwards on a number line to count back to find the difference of a subtraction problem.</li> </ul>	
<p><b>2.MD.A.6 – WALT</b> represent whole number sums within 100 on a number line diagram</p>				
<p><b>2.MD.A.6 – WALT</b> represent whole number differences within 100 on a</p>				

number line diagram				
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**Benchmark Assessment 1**

<b>Benchmark Assessment</b>		<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>

**Benchmark Assessment 2**

<b>Benchmark Assessment</b>		<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>

**Summative Assessments (add rows as needed)**

<b>Summative Assessment</b>		<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>

**Interdisciplinary Connections**

<b>Interdisciplinary Connections</b>		<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>

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**Unit Title: Mathematics Measurement Data and Data Representations – Unit 4 – Module A**

**Grade level: Grade 2**

**Timeframe:**

**Rationale**

*Building on their grade 1 experiences partitioning circles and rectangles into two and four equal shares, grade 2 learners also partition those figures into three equal shares and recognize that equal shares of identical wholes need not have the same shape. They solidify their skills solve word problems involving money and telling time to the nearest five minutes, and revisit repeated addition in preparation for multiplication in grade 3.*

*In the final unit of grade 2, learners generate measurement data and represent the data in line plots. They measure lengths of several objects to the nearest whole unit, or make repeated measurements of the same object to generate data. Grade 2 learners also represent data with picture and a bar graphs, representing a data set with up to four categories. This unit concludes as learners state from memory all sums of two one-digit numbers, demonstrate fluency for addition and subtraction within 100 using strategies, and demonstrate fluency for addition and subtraction within 20 using mental strategies.*

## Essential Questions

## Standards

### Standards (Taught and Assessed):

- **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.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 to represent the problem.
- **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.
- **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.

Key:

■ Major Cluster

□ Supporting Cluster

◎ Additional Cluster

## Highlighted Career Ready Practices and 21<sup>st</sup> Century Themes/Skills

- 9.1.4.A.1 Recognize a problem and brainstorm ways to solve the problem individually or collaboratively.
- 9.1.4.A.2 Evaluate available resources that can assist in solving problems.
- 9.1.4.A.5 Apply critical thinking and problem-solving skills in classroom and family settings.
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.

## Social-Emotional Learning Competencies

- Self-Awareness
- Self-Management
- Social Awareness
- Relationship Skills
- Responsible Decision-Making

## Instructional Plan

### Pre-Assessment and Reflection

<b>Pre-Assessment</b>		<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>

### Student Learning Objectives (SLO), Strategies, Formative Assessment, Activities and Resources (add rows as needed)

SLO – WALL	Student Strategies	Formative Assessment	Activities and Resources	Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections
We are learning to/that				

<p><b>2.MD.D.9 – WALT</b> generate measurement data by measuring lengths, to the nearest whole unit, of several objects</p>	<ul style="list-style-type: none"> <li>Recall that data means information</li> <li>Recall and apply how to use different tools of measurement, including how to measure from one end of an object to the other</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation as students measure objects and collect data</li> <li>Teacher observation as students answer questions regarding the number of objects represented on top of each measurement when examining a line plot</li> <li>Exit Ticket: Provide measurement data for a number of objects and have students create a line plot that represents the data</li> </ul>	<ul style="list-style-type: none"> <li>Have students work in groups to measure different objects and record data using tally marks</li> <li>Have students work in pairs to measure the same object multiple times</li> <li>Have students use recorded data from the measurement of different objects to create a line plot that represents the data collected</li> <li>Ask students to identify the number of objects represented on top of each measurement when examining a line plot</li> </ul>	<p>General and Special Education teachers will work together to provide students with the support they need as written in their individualized education plan</p>
<p><b>2.MD.D.9 – WALT</b> generate measurement data by measuring the same object multiple times</p>	<ul style="list-style-type: none"> <li>Utilize tally marks to record measurement data as objects are measured</li> <li>Recognize that each x on a line plot represents one object measured at a specific length</li> <li>Recognize that if there is not an x about a measurement on a line plot, no object measured at that length</li> <li>Recall and apply how to compare and contrast numbers</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket: Provide measurement data for a number of objects and have students create a line plot that represents the data</li> </ul>	<ul style="list-style-type: none"> <li>Have students survey the class/family and generate a tally chart based on the data collected (favorite snack, favorite sport, etc.)</li> <li>Put students in pairs to convert the data collected from the tally chart into a picture graph</li> </ul>	
<p><b>2.MD.D.9 – WALT</b> record measurements in a line plot whose horizontal scale is in whole number units</p>	<ul style="list-style-type: none"> <li>Recall and apply how to compare and contrast numbers</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket: provide students with data and have them create a picture graph to represent the data (differentiate using a different key based on student ability and understanding)</li> </ul>	<ul style="list-style-type: none"> <li>Have students survey the class/family and generate a tally chart based on the data collected (favorite snack, favorite sport, etc.)</li> <li>Put students in pairs to convert the data collected from the tally chart into a picture graph</li> </ul>	
<p><b>2.MD.D.10 – WALT</b> draw a picture graph to represent a data set with up to four categories</p>	<ul style="list-style-type: none"> <li>Recognize that a picture graph is made up of a title, choices, a key, and a pictures to represent data</li> <li>Utilize the key as a means to count each picture by</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket: provide students with data and have them create a picture graph to represent the data (differentiate using a different key based on student ability and understanding)</li> </ul>	<ul style="list-style-type: none"> <li>Have students survey the class/family and generate a tally chart based on the data collected (favorite snack, favorite sport, etc.)</li> <li>Put students in pairs to convert the data collected from the tally chart into a picture graph</li> </ul>	
<p><b>2.MD.D.10 – WALT</b> draw</p>	<ul style="list-style-type: none"> <li>Recognize that a bar</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket: provide</li> </ul>	<ul style="list-style-type: none"> <li>Have students survey</li> </ul>	

<p>a bar graph to represent a data set with up to four categories</p>	<p><i>graph is made up of a title, choices, scale and bars to represent data</i></p>	<p><i>students with data and have them create a bar graph to represent the data (differentiate using what numbers the scale skip counts by based on student ability and understanding)</i></p>	<p><i>the class/family and generate a tally chart based on the data collected (favorite snack, favorite sport, etc.)</i></p> <ul style="list-style-type: none"> <li>Put students in pairs to convert the data collected from the tally chart into a bar graph</li> </ul>	
<p><b>2.MD.D.10 – WALLT</b> use information from a bar graph to solve simple put together, take-apart, and compare problems</p>	<ul style="list-style-type: none"> <li>Utilize the length of each bar to determine which choice was chosen the most and the least</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket-use a bar graph to solve addition and subtraction word problems</li> </ul>	<ul style="list-style-type: none"> <li>Students collect data and create their own bar graphs. They then create questions about their bar graphs to ask a partner. Their partners then have to find the answers to the questions by either adding or subtracting using data found in the bar graph</li> </ul>	
<p><b>2.MD.B.5 – WALLT</b> add and subtract within 100 to solve word problems that involve lengths of the same units</p>	<ul style="list-style-type: none"> <li>Recognize key vocabulary terms in a word problem for addition (altogether, in total, etc.) and subtraction (gave away, remove, etc.)</li> <li>Recall and apply addition and subtraction facts.</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket - solve addition and subtraction word problems that involve equations where students have to add or subtract numbers in inches or centimeters</li> </ul>	<ul style="list-style-type: none"> <li>Write word problems using key vocabulary words for addition and subtraction</li> <li>Practice math facts using flashcards or Xtramath online program</li> </ul>	
<p><b>2.MD.B.5 – WALLT</b> use equations with a symbol for the unknown and drawings, such as drawings</p>	<ul style="list-style-type: none"> <li>Recognize what is missing within a word problem, such as the sum, the difference, or an</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket-solve addition and subtraction problems using Part, Part, Whole (Bar Model)</li> </ul>	<ul style="list-style-type: none"> <li>Model and use Part, Part, Whole (Bar Model) to solve word problems where students need to find</li> </ul>	

<p>of 1...ers, to represent the problem</p>	<ul style="list-style-type: none"> <li>• <i>addend.</i></li> <li>• <i>Recognize that there are 12 inches in a ruler when drawing a ruler to represent the problem.</i></li> </ul>		<p><i>the unknown number and represent it with a symbol</i></p>	
<p><b>2.NBT.B.5 – WALT</b> add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction, with accuracy and efficiency</p>	<ul style="list-style-type: none"> <li>• <i>Solve problems by quickly using manipulatives or drawing pictures to solve problems</i></li> <li>• <i>Explain how the manipulatives or pictures show the math needed to solve the problem</i></li> <li>• <i>Apply model reasoning to standard algorithm</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>ECR in which students model, solve, and explain in written word</i></li> <li>• <i>Have students model or draw how to solve a subtraction problem and then use addition to check their work</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Solve addition and subtraction problems using base ten blocks</i></li> <li>• <i>Demonstrate regrouping using base ten blocks and drawings to model how to solve problems</i></li> <li>• <i>Utilize the Go Math Interactive Lessons to model regrouping</i></li> <li>• <i>Provide students with a regrouping checklist for both addition and subtraction</i></li> </ul>	
<p><b>2.OA.B.2 – WALT</b> add and subtract within 20 with accuracy and efficiency</p>	<ul style="list-style-type: none"> <li>• <i>Utilize mental math strategies within 20 to memorize sums</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Quiz students using flashcards or timed interactive fact game</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Practice addition and subtraction facts using flash cards or Xtra Math online <a href="https://xtramath.org/#/home/index">https://xtramath.org/#/home/index</a></i></li> <li>• <i>Fact Champ game</i></li> </ul>	
<p><b>2.OA.B.2 – WALT</b> know from memory all sums of two one-digit numbers</p>	<ul style="list-style-type: none"> <li>• <i>Utilize mental math strategies within 10 to memorize sums</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Quiz students using flashcards or timed interactive fact game</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Practice addition and subtraction facts using flash cards or Xtra Math online <a href="https://xtramath.org/#/home/index">https://xtramath.org/#/home/index</a></i></li> <li>• <i>Fact Champ game</i></li> </ul>	



**Benchmark Assessment 1**

<b>Benchmark Assessment</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>

**Benchmark Assessment 2**

<b>Benchmark Assessment</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>

**Summative Assessments (add rows as needed)**

<b>Summative Assessment</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>

**Interdisciplinary Connections**

<b>Interdisciplinary Connections</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>

## Unit Title: Mathematics Measurement Data and Data Representations – Unit 4 – Module B

Grade level: Grade 2

Timeframe:

### Rationale

*Grade 2 – Measurement Data and Data Representations - Unit 4*

*Building on their grade 1 experiences partitioning circles and rectangles into two and four equal shares, grade 2 learners also partition those figures into three equal shares and recognize that equal shares of identical wholes need not have the same shape. They solidify their skills solve word problems involving money and telling time to the nearest five minutes, and revisit repeated addition in preparation for multiplication in grade 3.*

*In the final unit of grade 2, learners generate measurement data and represent the data in line plots. They measure lengths of several objects to the nearest whole unit, or make repeated measurements of the same object to generate data. Grade 2 learners also represent data with picture and a bar graphs, representing a data set with up to four categories. This unit concludes as learners state from memory all sums of two one-digit numbers, demonstrate fluency for addition and subtraction within 100 using strategies, and demonstrate fluency for addition and subtraction within 20 using mental strategies.*

### Essential Questions

### Standards

Standards (Taught and Assessed):

- **2.NBT.A.2** Count within 1000; skip-count by 5s, 10s, and 100s.
- **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.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.7** Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
- **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?*

Key: ■ Major Cluster    □ Supporting Cluster    ◎ Additional Cluster

### Highlighted Career Ready Practices and 21<sup>st</sup> Century Themes/Skills

- 9.1.4.A.1 Recognize a problem and brainstorm ways to solve the problem individually or collaboratively.
- 9.1.4.A.2 Evaluate available resources that can assist in solving problems.
- 9.1.4.A.5 Apply critical thinking and problem-solving skills in classroom and family settings.
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.

### Social-Emotional Learning Competencies

- Self-Awareness
- Self-Management
- Social Awareness
- Relationship Skills
- Responsible Decision-Making

Pre-Assessment and Reflection

Pre-Assessment	Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections	

Student Learning Objectives (SLO), Strategies, Formative Assessment, Activities and Resources (add rows as needed)

SLO – WALT	Student Strategies	Formative Assessment	Activities and Resources	Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections
<p>We are learning to/that</p>				<p>General and Special Education teachers will work together to provide students with the support they need as written in their individualized education plan</p>
<p>2.NBT.A.2 – WALT skip count by fives</p>	<ul style="list-style-type: none"> <li>Recognize and apply number patterns</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket - continue the pattern within a group of hundreds (e.g. 605, 610, ____)</li> </ul>	<ul style="list-style-type: none"> <li>Skip Count By 5's</li> <li>Skip Count By 10's</li> <li>Skip Count By 100's</li> <li>Using manipulatives (snap cubes, legos, pennies, cereal, beans, etc.) in groups of 5, 10 and 100 to make a connection to the numbers highlighted on a chosen hundreds chart</li> </ul>	
<p>2.NBT.A.2 – WALT skip count by tens</p>	<ul style="list-style-type: none"> <li>Recognize and apply number patterns</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket - continue the pattern within a group of hundreds (e.g. 770, 780, ____)</li> </ul>	<ul style="list-style-type: none"> <li>Create task cards for independent work or center time. Write a 3-digit # on each card with directions for what to practice counting by (5's, 10's, 100's)</li> <li>Write 3 digit #'s on bottle caps that count by 5's, 10's, 100's</li> </ul>	
<p>2.NBT.A.2 – WALT skip count by hundreds</p>	<ul style="list-style-type: none"> <li>Recognize and apply number patterns</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket - continue the pattern up to 1,000 (e.g. 700, 800, ____, ____)</li> </ul>		

<p><b>2.OA.C.4 – WALT</b> use repeated addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns</p>	<ul style="list-style-type: none"> <li>Utilize visual patterns of arrays to show repeated addition</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket - provide a model of an array with the task of creating an equation using repeated addition</li> </ul>	<p>and have students practice putting the numbers in order.</p> <ul style="list-style-type: none"> <li>Use cubes/counters to arrange arrays into columns and rows to model repeated addition, then write a repeated addition number sentence</li> </ul>	
<p><b>2.OA.C.4 – WALT</b> write an equation to express the total number of objects arranged in a rectangular array as a sum of equal addends</p>	<ul style="list-style-type: none"> <li>Recall and apply knowledge of the parts of an equation</li> <li>Recall and apply knowledge of addends</li> </ul>		<ul style="list-style-type: none"> <li>Write the Room - students visit different arrays and make a number sentence for each one</li> </ul>	
<p><b>2.G.A.1 – WALT</b> recognize and draw shapes based on their attributes, such as a given number of angles or a given number of equal faces</p>	<ul style="list-style-type: none"> <li>Recognize plane shapes (circles, squares, rectangles, triangles)</li> <li>Recall the number of faces, edges, angles, vertices in a 3-D shape</li> <li>Compare and contrast to identify attributes of different shapes</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation as partners describe the faces of a rectangular prism and the faces of a cube.</li> <li>Exit Ticket-Show pictures of various polygons and have students label their names.</li> </ul>	<ul style="list-style-type: none"> <li>Sort shapes by attributes (number of angles, faces, etc.)</li> <li>Identify real-world objects that are cubes, triangles, quadrilaterals, pentagons, and hexagons</li> <li>Read <u>The Greedy Triangle</u> by Marilyn Burns and have students draw each shape as it is formed in the book</li> <li>Design 3-D Shape Monsters</li> </ul>	
<p><b>2.G.A.1 – WALT</b> identify cubes, triangles, quadrilaterals, pentagons, and hexagons</p>				

<p><b>2.G.A.3 – WALT</b> partition circles and rectangles into two, three, or four equal shares</p>	<ul style="list-style-type: none"> <li>Recognize the concept of equal and unequal</li> <li>Recall how many equal parts are in halves, thirds, and fourths</li> <li>Identify different ways to describe a whole</li> <li>Recognize ways to partition different shapes into halves, thirds and fourths</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket: Have three squares and ask students to find three different ways to partition the squares into fourths. Students then explain how they know each square is partitioned into equal parts.</li> <li>Teacher observation as students design a flag using partition equal parts</li> </ul>	<ul style="list-style-type: none"> <li>Cut or fold pieces of paper and encourage students to identify the number of equal parts created.</li> <li>Show children a paper plate with a line drawn on it that divides the plate into two equal parts. Explain that halves are two equal parts of a whole. Repeat with plates for three and four equal parts and identify the parts as thirds and fourths.</li> <li>Have students work in groups and use different shapes to illustrate the same equal part. Then have the students share their shapes. Ask children to discuss how the various models of halves, thirds, and fourths are alike and different.</li> </ul>	
<p><b>2.G.A.3 – WALT</b> describe the whole as two halves, three thirds, four fourths</p>				
<p><b>2.G.A.3 – WALT</b> recognize that equal shares of identical wholes need not have the same shape</p>				
<p><b>2.MD.C.7 – WALT</b> use analog and digital clocks to tell time to the nearest five minutes using a.m. and p.m.</p>	<ul style="list-style-type: none"> <li>Recognize what each number on an analog clock represents</li> <li>Understand the difference between the hour and minute hand on an analog clock</li> </ul>	<ul style="list-style-type: none"> <li>Draw hour and minute hands on clocks to demonstrate the correct time to the nearest 5 minutes</li> <li>Label a clock with the correct digits and values of each 5</li> </ul>	<ul style="list-style-type: none"> <li>Telling Time to the Nearest 5 Minutes</li> <li>Learning the Clock</li> <li>Use mini clocks (or create mini clocks) to model time to the nearest five minutes</li> <li>Draw a line down a</li> </ul>	

	<ul style="list-style-type: none"> <li>Recognize that every five minute interval is a fraction of an hour</li> <li>Recognize that there are 24 hours in a day, 12 being a.m. and 12 being p.m. and be able to distinguish between the 2</li> </ul>	<ul style="list-style-type: none"> <li>minute increment</li> <li>Answer questions by telling whether the activity would happen in the a.m or p.m. hours</li> </ul>	<p>piece of paper and write the 12 a.m. hours on one side and the 12 p.m. hours on the other side. Have students fill in what they do each day during the times</p>	
<p><b>2.MD.C.8 – WALT</b> solve word problems involving dollar bills, quarters, dimes, nickels, and pennies using the \$ and ¢ symbols appropriately</p>	<ul style="list-style-type: none"> <li>Use knowledge of the values of dollar bills, quarters, dimes, nickels, and pennies to solve word problems in which they have to add and subtract values of money</li> <li>Recall and apply knowledge of place value</li> </ul>	<ul style="list-style-type: none"> <li>Exit Ticket- addition and subtraction word problems involving money</li> </ul>	<ul style="list-style-type: none"> <li>Create and solve word problems involving money</li> <li>Create a class store, label items with various prices using \$ and ¢ symbols appropriately</li> <li>Present pennies, nickels, dimes, and quarters as fractions of a dollar</li> </ul>	

**Benchmark Assessment 1**

<p><b>Benchmark Assessment</b></p>		<p><b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b></p>

**Benchmark Assessment 2**

<p><b>Benchmark Assessment</b></p>		<p><b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b></p>



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**Summative Assessments (add rows as needed)**

<b>Summative Assessment</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>

**Interdisciplinary Connections**

<b>Interdisciplinary Connections</b>	<b>Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections</b>