Math 2

Semester A Summary:

In Math 2 A, the student will learn mathematical concepts related to addition and subtraction, even and odd numbers, time, and money. Concepts are developed using mathematical processes of problem-solving, reasoning, communicating, representing, and making connections. Building both conceptual knowledge and procedural fluency supports the student's development of mathematical thinking and reasoning in solving various problems of authentic contexts.

Semester A Outline

1. **Welcome to Math 2**
   1. Get Ready to Learn Math
      - Meet Ladybug, your learning buddy for the course
      - Look at the types of lesson slides and activities you will see in the course
2. **Fluently Add and Subtract within 20**
   1. Addition Fact Strategies
      - Use counting on to add numbers and add numbers in any order
   2. Doubles and Near Doubles
      - Use doubles and near doubles to add quickly and accurately
   3. Make a 10 to Add
      - Use the strategy of making a 10 to add quickly and accurately
   4. Addition Fact Patterns
      - Use number patterns on an addition facts table to complete related addition equations that show basic facts
   5. Count on and Count Back to Subtract
      - Count on and count back on a number line to subtract
   6. Think Addition to Subtract
      - Think addition to subtract quickly and accurately
   7. Make a 10 to Subtract
      - Make a 10 to subtract quickly and accurately
   8. Practice Addition and Subtraction Facts
      - Add and subtract quickly and accurately using mental math strategies
   9. Solve Addition and Subtraction Word Problems
      - Use addition and subtraction to solve word problems
   10. Math Practices: Construct Arguments
      - Use words, pictures, numbers, and symbols to construct viable math arguments
   11. Fluently Add and Subtract within 20 Unit Test
3. **Work with Equal Groups**
   1. Even and Odd Numbers
      - Tell if a group of objects is even or odd
      - Use different ways to tell if a group of objects shows an even or odd number
   2. Use Arrays to Find Totals

- Find the total number of objects in a set of rows and columns
    3. Make Arrays to Find Totals
        - Make arrays with equal rows or equal columns to solve addition problems
    4. Math Practices: Model with Math
        - Model problems using equations, drawings, arrays, and bar diagrams
    5. Work With Equal Groups Unit Test

4. Add within 100 Using Strategies
    1. Add Tens and Ones on a Hundred Chart
        - Add within 100 using place-value strategies and a hundred chart
    2. Add Tens and Ones on an Open Number Line
        - Add tens to two-digit numbers using an open number line
        - Use an open number line to add tens and ones within 100
    3. Break Apart Numbers to Add
        - Add within 100 using place-value strategies
        - Break apart numbers into tens and ones to find their sum
    4. Add Using Compensation
        - Break apart addends and combine them in different ways to make numbers that are easy to add mentally.
    5. Solve One-Step and Two-Step Problems
        - Use drawings and equations to solve one-step and two-step problems
    6. Math Practices: Use Appropriate Tools
        - Choose an appropriate tool and use it to solve a math problem
    7. Add Within 100 Using Strategies Unit Test

5. Fluently Add within 100
    1. Add With Partial Sums
        - Add using place value and partial sums
        - Add using partial sums
    2. Models to Add 2-Digit Numbers
        - Use models to add 2-digit numbers and then explain the work
    3. Add 2-Digit Numbers
        - Add 2-digit numbers and then explain the work
    4. Add More Than 2-Digit Numbers
        - Add three or four 2-digit numbers
    5. Solve One-Step and Two-Step Problems
        - Use drawings, models, and equations to solve one- and two-step problems
    6. Math Practices: Model With Math
        - Make models to help solve math problems
    7. Fluently Add Within 100 Unit Test

6. Subtract within 100 Using Strategies
    1. Subtract Tens and Ones on a Hundred Chart
        - Use a hundred chart to subtract tens and ones
    2. Count Back to Subtract on an Open Number Line
        - Use an open number line to subtract tens
        - Use an open number line to subtract tens and ones
    3. Add Up to Subtract Using an Open Number Line
        - Add up to subtract using an open number line
    4. Break Apart Numbers to Subtract
        - Break apart 1-digit numbers to make it easier to subtract mentally
        - Break apart 2-digit numbers to make it easier to subtract
    5. Subtract Using Compensation
        - Make numbers that are easier to subtract and use mental math to find the

difference
   6. Solve One-Step and Two-Step Problems
      ● Solve one- and two-step problems using addition and subtraction
   7. Math Practices: Critique Reasoning
      ● Critique the thinking of others by using what is known about addition and subtraction
   8. Subtract within 100 Using Strategies Unit Test
7. Fluently Subtract within 100
   1. Regroup 1 Ten for 10 Ones
      ● Exchange 1 ten for 10 ones
   2. Use Place Value and Models to Subtract
      ● Use place value and models to subtract two-digit and one-digit numbers
   3. Subtract 2-Digit and 1-Digit Numbers
      ● Use place value and regrouping to subtract
   4. Models to Subtract 2-Digit Numbers
      ● Use place value and models to subtract two-digit numbers
   5. Use Addition to Check Subtraction
      ● Add to check subtraction
   6. Practice Subtracting
      ● Subtract two-digit numbers and decide when to regroup and when not to regroup
   7. Solve One-Step and Two-Step Problems
      ● Use models and equations to solve word problems
   8. Math Practices: Reasoning
      ● Reason about word problems and use bar diagrams and equations to solve them
   9. Fluently Subtract Within 100 Unit Test
8. Solving with Addition and Subtraction
   1. Represent Addition and Subtraction Problems
      ● Model problems using equations with unknowns in any position
   2. Solve Addition and Subtraction Problems
      ● Use drawings and equations to make sense of the words in problems
   3. Solve Two-Step Problems
      ● Model and solve two-step problems using equations
      ● Use different ways to solve two-step problems
   4. Math Practices: Reasoning
      ● Use reasoning to write and solve number stories
   5. Solving with Addition and Subtraction Unit Test
9. Work with Time and Money
   1. Solve Problems with Coins
      ● Solve problems with coins
   2. Solve Problems with Dollar Bills
      ● Solve problems with dollar bills and coins that model 100 cents
      ● Solve problems with dollar bills
   3. Tell Time to Five Minutes
      ● Tell time to the nearest five minutes
   4. Tell Time Before and After the Hour
      ● Say the time in different ways
   5. A.M. and P.M.
      ● Tell time and use reasoning to state if the event is happening in the a.m. or p.m.

6. Reading a Calendar
   - Determine past and future days of the week
   - Identify specific days and dates on a given calendar
7. Math Practices: Reasoning
   - Reason about values of coins and dollar bills, and find different ways to make the same total value
8. Work with Time and Money Unit Test

Semester B Summary:

In Math 2 B, the student will learn mathematical concepts related to measuring length, graphs and data, shapes and their attributes, and place value using models. Concepts are developed using mathematical processes of problem-solving, reasoning, communicating, representing, and making connections. Building both conceptual knowledge and procedural fluency supports the student's development of mathematical thinking and reasoning in solving various problems of authentic contexts.

Semester B Outline

1. **Welcome to Math 2**
   1. Get Ready to Learn Math
      - Meet Ladybug, your learning buddy for the course
      - Look at the types of lesson slides and activities you will see in the course
2. **Numbers to 1,000**
   1. Understand Hundreds
      - Understand place value and count by hundreds to 1,000.
   2. Models and 3-Digit Numbers
      - Use place-value blocks and drawings to model and write 3-digit numbers
   3. Name Place Values
      - Tell the value of a digit by where it is placed in a number
   4. Read and Write 3-Digit Numbers
      - Read and write 3-digit numbers in expanded form, standard form, and word form
   5. Different Ways to Name the Same Number
      - Make and name a number in different ways to show the same value
   6. Place-Value Patterns with Numbers
      - Use place-value patterns to mentally count by 1s and 10s from a given number
   7. Skip Count
      - Skip count by 2s, 5s, 10s, and 100s using a number line
   8. Compare Numbers Using Place Value
      - Compare numbers using place value
   9. Compare Numbers on the Number Line
      - Compare and write a three-digit number that is greater than or less than another three-digit number
   10. Round Numbers to the Nearest Tens Place
      - Round numbers to the nearest tens place
   11. Math Practices: Look for and Use Structure
      - Look for patterns to help when solving problems
   12. Numbers to 1,000 Unit Test
3. **Add using Models and Strategies**

1. Add 10 and 100
   - Add 10 or 100 mentally using place value
2. Add on an Open Number Line
   - Use an open number line to add 3-digit numbers
3. Add Using Mental Math
   - Add 3-digit numbers using mental math strategies
4. Add Using Partial Sums
   - Add 3-digit numbers using partial sums
5. Use Models to Add
   - Use models to add 3-digit numbers
6. Explain Addition Strategies
   - Use different addition strategies and explain why they work
7. Math Practices: Repeated Reasoning
   - Think about and check my work as I solve a problem
8. Add Using Models and Strategies Unit Test

4. Subtract using Models and Strategies
1. Subtract 10 and 100
   - Subtract 10 or 100 mentally using place-value strategies
2. Count Back to Subtract on an Open Number Line
   - Use an open number line to count back to subtract 3-digit numbers
3. Add Up To Subtract on an Open Number Line
   - Use an open number line to add up to subtract 3-digit numbers
4. Subtract Using Mental Math
   - Use mental math to subtract
5. Use Models to Subtract
   - Use models to subtract 3-digit numbers
6. Explain Subtraction Strategies
   - Explain why subtraction strategies work using models, place value, and mental math
7. Math Practices: Make Sense and Persevere
   - Solve problems that take more than one step
8. Subtract Using Models and Strategies Unit Test

5. Measuring Length
1. Estimating Length
   - Estimate the length of an object by relating the length of the object to a measurement I know
2. Measure with Inches
   - Estimate measures and use a ruler to measure length and height to the nearest inch
3. Inches, Feet, and Yards
   - Estimate measures and use tools to measure the length and height of objects to the nearest inch, foot, and yard
4. Measure Length Using Different Customary Units
   - Estimate and measure the length and height of objects in inches, feet, and yards
5. Measure with Centimeters and Meters
   - Estimate measures and use a ruler to measure length and height to the nearest centimeter
   - Estimate measures and use a ruler, meter stick, or tape measure to measure length and height to the nearest centimeter or meter
6. Measure Length Using Different Metric Units

- Measure the length and height of objects using different metric units
    7. Compare Lengths
        - Tell how much longer one object is than another
    8. Math Practices: Precision
        - Choose tools, units, and methods that help me be precise when I measure
    9. Measuring Length Unit Test
6. **More Addition, Subtraction, and Length**
    1. Add and Subtract With Measurements
        - Solve problems by adding or subtracting length measurements
    2. Find Unknown Measurements
        - Add or subtract to solve problems about measurements
        - Add and subtract to solve measurement problems by using drawings and equations
    3. Add and Subtract on a Number Line
        - Add and subtract on a number line
    4. Math Practices: Use Appropriate Tools
        - Choose the best tool to use to solve problems
    5. More Addition, Subtraction, and Length Unit Test
7. **Graphs and Data**
    1. Ordinal Position
        - Count, identify, and write the ordinal position of objects in an ordered set
    2. Line Plots
        - Measure the lengths of objects and make a line plot to organize the data
    3. Bar Graphs
        - Draw bar graphs and use them to solve problems
    4. Picture Graphs
        - Draw picture graphs and use them to solve problems
    5. Draw Conclusions From Graphs
        - Draw conclusions from graphs
    6. Math Practices: Reasoning
        - Reason about data in bar graphs and picture graphs to write and solve problems
    7. Graphs and Data Unit Test
8. **Shapes and Their Attributes**
    1. Two-Dimensional Shapes
        - Recognize shapes by how they look
    2. Symmetry
        - Draw a line of symmetry in a figure
        - Identify and create figures with at least one line of symmetry
    3. Polygons and Angles
        - Describe plane shapes by how they look
    4. Draw Two-Dimensional Shapes
        - Draw polygon shapes
    5. Cubes
        - Draw cubes and describe how they look
    6. Compare Plane Figures and Solid Figures
        - Identify and describe plane and solid figures
        - Compare and contrast plane and solid figures
    7. Divide Rectangles into Equal Squares
        - Divide rectangles into equal squares
    8. Partition Shapes

- Divide circles and rectangles into halves, thirds, and fourths
9. Equal Shares, Different Shapes
   - Make equal shares that do not have the same shape
10. Math Practices: Repeated Reasoning
    - Use repeated reasoning to divide rectangles into rows and columns and to create designs with equal shares
11. Shapes and Their Attributes Unit Test

9. Looking Ahead to Grade 3
   1. Multiplication and Repeated Addition
      - Use repeated addition to show the relationship between multiplication and addition
   2. Arrays and Multiplication
      - Use repeated addition to show the relationship between multiplication and division
   3. Division as Sharing
      - Use objects or pictures to show how objects can be divided into equal groups
   4. Division as Repeated Subtraction
      - Use repeated subtraction to understand and solve division problems
   5. Add with Partial Sums
      - Add numbers using partial sums
   6. Models for Adding 3-Digit Numbers
      - Add 3-digit numbers using models, drawings, and place value
   7. Subtract with Partial Differences
      - Subtract numbers using partial differences
   8. Models for Subtracting 3-Digit Numbers
      - Subtract 3-digit numbers using models, drawings, and place value
   9. Divide Regions into Equal Parts
      - Read and write a unit fraction
   10. Fractions and Regions
       - Show and name part of a region