Math 1

Semester A Summary:

In Math 1 A, the student will learn mathematical concepts related to addition and subtraction, measuring lengths, time, and representing and interpreting data. 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 1**
    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. **Addition and Subtraction Problems to 10**
    1. Add To
        - Solve addition problems involving situations of adding one part to another part
    2. Put Together
        - Solve addition problems involving situations of putting two parts together
    3. Solve Problems: Both Addends Unknown
        - Solve addition word problems by breaking apart a total number of objects
    4. Solve Problems: Take From
        - Solve subtraction problems involving taking from a group
    5. Solve Problems: Compare Situations
        - Solve subtraction problems that involve comparing to find how many more objects are in one group than another group
        - Solve subtraction problems that involve comparing to find how many fewer objects are in one group than another group
    6. Practice Solving Problems: Add To
        - Solve addition problems by finding a missing addend.
    7. Solve Problems: Put Together and Take Apart
        - Solve problems involving putting together or taking apart
    8. Math Practices: Construct Arguments
        - Construct math arguments in order to solve addition and subtraction problems.
        - Construct viable arguments and critique the reasoning of others.
    9. Addition and Subtraction Problems to 10 Unit Test
3. **Fluently Add and Subtract within 10**
    1. Count on to Add
        - Add by counting on from a number
    2. Doubles

- Use doubles to solve problems

3. Near Doubles
    - Solve problems using near doubles facts
4. Facts with 5 on the Ten-Frame
    - Use a ten-frame to solve addition facts with 5 and 10
5. Add in Any Order
    - Use the same addends to write two different equations with the same sum
6. Count Back to Subtract
    - Count back to solve subtraction problems
7. Think Addition to Subtract
    - Use addition facts to 10 to solve subtraction problems
8. Solve Word Problems with Facts to 10
    - Solve word problems by drawing pictures and writing equations
9. Ordinal Position
    - Indicate the ordinal position of an object in a set of ten objects
10. Math Practices: Look for and Use Structure
    - Use structure and identify patterns in order to solve problems
11. Fluently Add and Subtract within 10 Unit Test

4. Addition Facts to 20: Use Strategies

1. Count On to Add
    - Count on to add using a number line
2. Count On to Add Using an Open Number Line
    - Count on to add using an open number line
3. Doubles
    - Memorize doubles facts
4. Doubles Plus 1 and Doubles Plus 2
    - Use doubles facts to solve doubles-plus-one facts
    - Use doubles facts to solve doubles-plus-2 facts
5. Make 10 to Add
    - Make 10 to add numbers to 20
6. Explain Addition Strategies
    - Solve addition problems using different strategies
7. Solve Addition Word Problems with Facts to 20
    - Solve different types of addition word problems
8. Math Practices: Critique Reasoning
    - Critique the reasoning of others by using known information about addition and subtraction
9. Addition Facts to 20: Use Strategies Unit Test

5. Subtraction Facts to 20: Use Strategies

1. Count to Subtract
    - Use a number line to subtract by counting on or counting back
2. Make 10 to Subtract
    - Make subtraction easier by making 10 to subtract
3. Continue to Make 10 to Subtract
    - Count on to subtract using 10 as a landmark
4. Fact Families
    - Make addition and subtraction facts using the same three numbers
5. Use Addition to Subtract
    - Use addition facts to find subtraction facts
6. Explain Subtraction Strategies
    - Explain strategies to solve subtraction problems

7. Solve Word Problems with Facts to 20
    - Solve different types of addition and subtraction problems with unknowns in different positions
8. Math Practices: Reasoning
    - Use reasoning to write and solve number stories
9. Subtraction Facts to 20: Use Strategies Unit Test

6. Work With Addition and Subtraction Equations

1. Find the Unknown Numbers
    - Find the unknown number in an equation
2. True or False Equations
    - Determine if addition and subtraction equations are true or false
3. Make True Equations
    - Find the missing numbers in equations to make them true
4. Word Problems with Three Addends
    - Use different strategies to solve word problems with 3 addends
5. Add Three Numbers
    - Use different strategies to add three numbers
6. Solve Addition and Subtraction Word Problems
    - Solve word problems involving comparisons
7. Math Practices: Precision
    - Use precision to determine the missing number or symbol in an equation
8. Addition and Subtraction Equations Unit Test

7. Measure Lengths

1. Compare and Order by Length
    - Order objects by length
2. Indirect Measurement
    - Indirectly compare objects by length
3. Use Units to Measure Length
    - Use objects to measure length
    - Use cubes and other units to compare lengths and heights of objects
4. Indirect Measurement of Weight and Volume
    - Use nonstandard units to measure and compare weight and volume
5. Math Practices: Use Appropriate Tools
    - Choose an appropriate tool and use it to measure a given object
6. Measure Lengths Unit Test

8. Time

1. Understand the Hour and Minute Hands
    - Tell time to the hour
2. Tell and Write Time to the Hour
    - Tell time to the hour using analog and digital clocks
3. Tell and Write Time to the Half Hour
    - Tell time to the half hour
4. Math Practices: Reasoning
    - Use reasoning to tell and write time
5. Time Unit Test

9. Represent and Interpret Data

1. Organize Data Into Three Categories
    - Organize data into categories
2. Collect and Represent Data
    - Collect and organize information using a picture graph
3. Interpret Data

- Interpret organized data

4. Continue to Interpret Data
    - Use a picture graph to interpret data
5. Represent Data with Tables and Object Graphs
    - Collect, organize, and represent data using tables and graphs
6. Interpret Data in Tables and Object Graphs
    - Interpret data in tables and object graphs
7. Math Practices: Make Sense and Persevere
    - Use perseverance to solve problems about sets of data
8. Represent and Interpret Data Unit Test

Semester B Summary:

In Math 1 B, the student will learn mathematical concepts related to counting, place value, comparing two-digit numbers, using models to add and subtract, reasoning with shapes, and parts of figures. 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 1**
    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. **Extend the Counting Sequence**
    1. Count by 10s to 120
        - Count by tens to 120
    2. Count by 1s to 120
        - Count by 1s to 120
    3. Count on a Number Chart to 120
        - Count on a number chart to 120
        - Find number patterns on a number chart
    4. Count on an Open Number Line
        - Count to 120 using an open number line
    5. Count and Write Numerals
        - Write numerals to show how many objects are in a group
    6. Math Practices: Repeated Reasoning
        - Find better and faster ways to solve problems
    7. Extend the Counting Sequence Unit Test
3. **Understand Place Value**
    1. Make Numbers 11 to 19
        - Read and write numbers 11 to 19.
    2. Numbers Made with Tens
        - Show groups of 10 with connecting cubes
    3. Count with Groups of Tens and Leftovers
        - Group tens to solve problems.
    4. Tens and Ones
        - Count tens and ones to find a two-digit number.
        - Use drawings to solve problems with tens and ones.

5. Estimate Magnitude
    - Select a reasonable order of magnitude for a given situation
6. Math Practices: Look for and Use Structure
    - Use tens and ones to make numbers in different ways.
7. Understand Place Value Unit Test

4. Compare Two-Digit Numbers

1. 1 More, 1 Less; 10 More, 10 Less
    - Find numbers that are more or less than a given number
2. Make Numbers on Hundred Chart
    - Use a hundred chart to find 1 more, 1 less, and 10 more, 10 less
3. Compare Numbers
    - Use place-value blocks to compare 2 two-digit numbers
    - Compare two numbers using a greater than, a less than, or an equal to sign
4. Order Sets of Objects
    - Order sets from least to greatest and greatest to least
5. Compare Numbers on a Number Line
    - Compare and write two-digit numbers that are greater than or less than other two-digit numbers
6. Math Practices: Make Sense and Persevere
    - Make sense of a problem and find the best way to solve it
7. Compare Two-Digit Numbers Unit Test

5. Use Models and Strategies to Add Tens and Ones

1. Add Tens Using Models
    - Add 2 multiples of 10
2. Mental Math: More Than a Number
    - Use mental math to add tens to two-digit numbers
3. Add Tens and Ones Using a Hundred Chart
    - Use a hundred chart to add tens and ones
4. Add Tens and Ones Using an Open Number Line
    - Use a number line to solve addition problems
5. Add Tens and Ones Using Models
    - Solve addition problems by using blocks or drawings
6. Make a Ten to Add
    - Make a ten to help solve addition problems
7. Total Value of Coins
    - Determine the value of a collection of coins
8. Add Using Place Value
    - Add 2 two-digit numbers
9. Practice Adding Using Strategies
    - Solve addition problems using different strategies
10. Math Practices: Model with Math
    - Model and solve problems by drawing a picture and writing an equation
11. Use Models to Add Tens and Ones Unit Test

6. Use Models to Subtract Tens

1. Subtract Tens Using Models
    - Use models to subtract tens
2. Subtract Tens Using a Hundred Chart
    - Use a hundred chart to subtract a multiple of 10 from another multiple of 10
3. Subtract Tens Using an Open Number Line
    - Use an open number line to solve subtraction problems
4. Use Addition to Subtract Tens

- Use addition to subtract tens

5. Mental Math: Ten Less Than a Number
    - Use mental math to subtract ten from a two-digit number
6. Use Strategies to Practice Subtraction
    - Use different strategies to subtract
7. Math Practices: Model with Math
    - Model thinking to solve problems
8. Use Models to Subtract Tens Unit Test

7. Reason with Shapes and Their Attributes

1. Use Attributes to Define Two-Dimensional Shapes
    - Use attributes to match shapes
2. Defining and Non-Defining Attributes of 2D Shapes
    - Define 2-D shapes by their attributes
3. Build and Draw 2D Shapes by Attributes
    - Use materials to build and draw 2-D shapes
4. Compose 2D Shapes
    - Combine 2-D Shapes to Make Another 2-D Shape
5. Use Attributes to Define 3D Shapes
    - Define 3-D shapes by their number of edges, vertices, and faces or flat surfaces.
6. Defining and Non-Defining Attributes of 3D Shapes
    - Choose defining attributes of 3-D shapes
7. Compose with 3D Shapes
    - Combine 3-D shapes to make another 3-D shape
8. Math Practices: Make Sense and Persevere
    - Find differences among various shapes
9. Reason with Shapes and their Attributes Unit Test

8. Equal Shares of Circles and Rectangles

1. Make Equal Shares
    - Determine whether shapes are divided into equal shares
2. Make Halves and Fourths of Rectangles and Circles
    - Divide shapes into 2 and 4 equal shares and use words to describe those shares
3. Understand Halves and Fourths
    - Understand that more equal shares of the same whole create smaller shares
4. Math Practices: Model with Math
    - Make a drawing or diagram to show a problem about equal shares
5. Equal Shares of Circles Unit Test

9. Step Up to Grade 2

1. Even and Odd Numbers
    - Tell if a group of objects is even or odd
2. Use Arrays to Find Totals
    - Find the total number of objects in a set of rows and columns
3. Add on a Hundred Chart
    - Add 2-digit numbers to 2-digit numbers using a hundred chart
4. Models to Add 2-Digit Numbers
    - Use models to add 2-digit numbers and then explain
5. Subtraction on a Hundred Chart
    - Subtract 2-digit numbers from 2-digit numbers using a hundred chart
6. Models to Subtract 2- and 1-Digit Numbers
    - Use a model to subtract a 1-digit number from a 2-digit number

7. Tell Time to Five Minutes
    - Tell time to the nearest five minutes
8. Understand Hundreds
    - Understand place value and count by hundreds to 1,000.
9. Counting Hundreds, Tens, and Ones
    - Count different types of place-value blocks to determine the number being shown
10. Skip Count by 5, 10, and 100 to 1000
    - Skip count by 5, 10, and 100 using a number line