Envisions Math 2.0

Topic 1 – Solve Addition and Subtraction Problems to 10

Topic 1 expands on what students learned in Kindergarten about addition and subtraction. Students develop a deep understanding of addition and subtraction by working on “add to,” “put together,” “take from,” take apart,” and “compare” problems.

1.1	Solve Problems by Adding To
1.2	Solve Problems by Putting Together
1.3	Solve Problems when Both Addends are Unknown
1.4	Solve Problems by Taking From
1.5	Solve Problems by Comparing Situations
1.6	Continue to Solve Problems by Comparing Situations
1.7	Practice Solving Problems by Adding To
1.8	Solve problems by Putting Together and Taking Apart
1.9	Constructing Arguments

Topic 2 – Fluently Add and Subtract Within 10

Topics 2 and 3 extend what students learned related to solving addition and subtraction problems to 10. In Topic 2, students use strategies to develop fluency with adding and subtracting within 10. Strategies include counting on and counting back, using doubles and near doubles, adding with 5, adding to 10, adding in any order, and thinking addition to subtract.

2.1	Count On to Add
2.2	Doubles
2.3	Near Doubles
2.4	Facts with 5 on a 10 Frame
2.5	Add in Any Order
2.6	Count Back to Subtract
2.7	Think Addition to Subtract
2.8	Continue to Think Addition to Subtract
2.9	Solve Word Problems with Facts to 10
2.10	Look For and Use Structure

Topic 3 – Addition Facts to 20: Use Strategies Topics 2 and 3 extend what students learned related to solving addition and subtraction problems to 10. In Topic 3, students adapt these strategies and also use the make 10 strategy to add within 20.	
3.1	Count On to Add
3.2	Count On to Add Using an Open Number Line

3.3	Doubles
3.4	Doubles Plus 1
3.5	Doubles Plus 2
3.6	Make 10 to Add
3.7	Continue to Make 10 to Add
3.8	Explain Addition Strategies
3.9	Solve Addition Word Problems with Facts to 20
3.10	Critique Reasoning

Topic 4 - Subtraction Facts to 20: Use Strategies

Topic 4 introduces students to several key strategies for solving subtraction facts to 20. These strategies include counting to subtract, making 10 to subtract, and using addition to subtract. These strategies will serve students by encouraging a deeper and more conceptual understanding of the relationship between addition and subtraction.

4.1	Count to Subtract
4.2	Make 10 to Subtract
4.3	Continue to Make 10 to Subtract
4.4	Fact Families
4.5	Use Addition to Subtract

4.6	Continue to Use Addition to Subtract
4.7	Explain Subtraction Strategies
4.8	Solve Word Problems with Facts to 20
4.9	Math Practices and Problem Solving: Reasoning

Topic 5 - Work with Addition and Subtraction Equations

Topic 5 focuses on the understanding that the equal sign indicates that both sides of an equation represent the same value. Students determine whether addition and subtraction equations are true or false, and they find the missing number in addition and subtraction equations. The Associative Property of Addition is also introduced as a way to group numbers flexibly to solve problems with three addends.

5.1	Find the Unknown Numbers
5.2	True or False Equations
5.3	Make True Equations
5.4	Word Problems with Three Addends
5.5	Add Three Numbers
5.6	Solve Addition and Subtraction Word Problems
5.7	Math Practices and Problem Solving: Precision

Topic 6 - Represent and Interpret Data

In Topic 6, students explore concepts of data analysis involving up to three categories of data.

Many of the problems about data are structured to represent a variety of addition and subtraction situations like those they worked on in Topic 1.	
6.1	Organize Data Into Three Categories
6.2	Collect and Represent Data
6.3	Interpret Data
6.4	Continue to Interpret Data
6.5	Math Practices and Problem Solving: Make Sense and Persevere

Topic 7 - Extend the Counting Sequence Topic 7 focuses on counting to 120 by tens and ones, reading and writing numbers to 120, and representing a number of objects with a written numeral for quantities to 120. Counting by tens and ones builds understanding about 2-digit numbers that will prove useful in upcoming topics involving place value.	
7.1	Count by 10s to 120
7.2	Count by 1s to 120
7.3	Count on a Number Chart to 120
7.4	Count by 1s or 10s to 120
7.5	Count on an Open Number Line
7.6	Count and Write Numerals
7.7	Math Practices and Problem Solving: Repeated Reasoning

Topic 8 - Understand Place Value Topics 8 and 9 strengthen students' understanding of the place-value system and prepare them for 2-digit addition and subtraction. Topic 8 develops the concept of tens and ones, which is a key foundation of the base-10 number system.	
8.1	Make Numbers 11 to 19
8.2	Numbers Made with 10s
8.3	Count with Groups of Ten and Leftovers
8.4	Tens and Ones
8.5	Continue with Tens and Ones
8.6	Math Practices and Problem Solving: Look For and Use Structure

Topic 9 - Compare Two-digit Numbers Topics 8 and 9 strengthen students' understanding of the place-value system and prepare them for 2-digit addition and subtraction. In Topic 9, students use their understanding of place value to compare 2-digit numbers.	
9.1	1 More, 1 Less; 10 More, 10 Less
9.2	Make Numbers on a Hundred Chart
9.3	Compare Numbers
9.4	Compare Numbers with Symbols (>, <, =)
9.5	Compare Numbers on a Number Line

9.6	Math Practices and Problem Solving: Make Sense and Persevere

Topic 10 - Use Models and Strategies to Add Tens and Ones

Topic 10 focuses on adding a 2-digit number to a 1-digit or 2-digit number with the sum less than 100. Students answer using concrete models, drawings, properties of operations, the relationship between addition and subtraction, and strategies based on place value. Written methods are related to strategies, with an expectation that students can explain the reasoning used.

10.1	Add Tens Using Models
10.2	Mental Math: Ten More Than a Number
10.3	Add Tens and Ones Using a Hundred Chart
10.4	Add Tens and Ones Using an Open Number Line
10.5	Add Tens and Ones Using Models
10.6	Make a Ten to Add
10.7	Add Using Place Value
10.8	Practice Adding Using Strategies
10.9	Math Practices and Problem Solving: Model with Math

Topic 11 - Use Models and Strategies to Subtract Tens

Topic 11 focuses on subtracting multiples of 10 less than 100. Students answer using concrete models, drawings, properties of operations, the relationship between addition and subtraction, and strategies based on place value. Written methods are related to strategies, with an expectation that students can explain the reasoning used.

11.1	Subtract Tens Using Models
11.2	Subtract Tens Using a Hundred Chart
11.3	Subtract Tens Using an Open Number Line
11.4	Use Addition to Subtract Tens
11.5	Mental Math: Ten Less Than a Number
11.6	Use Strategies to Practice Subtraction
11.7	Math Practices and Problem Solving: Model with Math

Topic 12 - Measure Lengths

Topic 12 focuses on just one measurable attribute of an object: length. Students develop an understanding of length by comparing objects to determine which is shortest and longest. Students also measure the length of objects using nonstandard units, such as pieces of string, cubes, and paper clips.

12.1	Compare and Order by Length
12.2	Indirect Measurement
12.3	Use Units to Measure Length
12.4	Continue to Measure Length
12.5	Math Practices and Problem Solving: Use Appropriate Tools

Topic 13 - Time

Topic 13 introduces students to telling and writing time to the hour and half hour using both analog and digital clocks. Students are introduced to the hour and minute hands on a clock, learning what each represents and how their positions provide information about telling time. Students draw clock hands to represent a given time.	
13.1	Understand the Hour and Minute Hands
13.2	Tell and Write Time to the Hour
13.3	Tell and Write Time to the Half Hour
13.4	Math Practices and Problem Solving: Reasoning

Topic 14 - Reason with Shapes and their Attributes Topic 14 deepens students' understanding of defining and non-defining attributes of two-dimensional and three-dimensional shapes. Students put together various shapes to create composite shapes, and then use the composite shapes to create new shapes.	
14.1	Use Attributes to Define Two-dimensional Shapes
14.2	Defining and Non-defining Attributes of 2-D Shapes
14.3	Build and Draw 2-D Shapes by Attributes
14.4	Compose 2-D Shapes
14.5	Compose New 2-D Shapes from 2-D Shapes
14.6	Use Attributes to Define Three-dimensional (3-D) Shapes
14.7	Defining and Non-defining Attributes of 3-D Shapes
14.8	Compose with 3-D Shapes

14.9	Math Practices and Problem Solving: Make Sense and Persevere

Topic 15 - Equal Shares of Circles and Rectangles Topic 15 begins a conceptual foundation for fractions. It focuses on partitioning circles and rectangles into 2 or 4 equal shares.	
15.1	Make Equal Shares
15.2	Make Halves and Fourths of Rectangles and Circles
15.3	Understand Halves and Fourths
15.4	Math Practices and Problem Solving: Model with Math