Grade 2

Key Areas of Focus for Grades K-2: Addition and subtraction-concepts, skills and problem solving

Expected Fluency: Add and Subtract within 20 Add and Subtract within 100							
Module	**M1:** Mastery of Sums and Differences to 20 and Word problems to 100	**M2:** Addition and Subtraction with Length Units	**M3:** Place Value, Counting, and Comparison of Numbers to 1000	**M4:** and **M:5** Addition and Subtraction of Numbers to 1000	**M6:** Preparation for Multiplication and Division Facts	**M7:** Comparison, Addition and Subtraction with Length and Money	**M8:** Recognizing Angles, Faces, and Vertices of Shapes, Fractions of Shapes
Duration	Quarter 1	Quarter 1	Quarter 1	Quarter 2	Quarter 3	Quarter 3 & 4	Quarter 4
Common Core Standards (also refer to pages 2-8 for detailed description)	2.OA.1* 2.OA.2* 2NBT.5	2.MD.1 2.MD.2 2.MD.3 2.MD.4 2.MD.5* 2.MD.6 2.MD.7	2.NBT.1* 2.NBT.2 2.NBT.3 2.NBT.4	2.OA.1* 2.NBT.5 2.NBT.6 2.NBT.7* 2.NBT.8 2.NBT.9	2.OA.3 2.OA.4 2.G.2	2.MD.1 2.MD.2 2.MD.3 2.MD.4 2.MD.5* 2.MD.6 2.MD.8 2.MD.9 2.MD.10	2.G1 2.G.3
Instructional Strategies	Use the math workshop model and centers. Each module should be approached from by understanding the students' baseline first and then developing and selecting, engaging and hand-on activities to build deep understanding at developmentally appropriate levels. Where possible, provide models and visuals for students. Communicate with students using student friendly iCan statements developed and or adopted by the grade-level team. Include kinesthetic activities to deepen understanding while adding movement and play into the learning						
Assessment Formative	Daily, ongoing formative assessment strategies included in each module (ex. Activities, exit tickets, Practice, Games, Online learning, etc.)						
Assessment Interim	A Mid-Module assessment Task is provided for each module to address the first half of the student outcomes for each module An End of the Module Assessment Task is provided to address the student outcomes for the module as a whole						
Assessment Summative	Cross-Modular Assessment Tasks are provided periodically after multiple modules to address standards from several modules and to ensure that students are making important connections across major topics within this grade.						

Key

GEOMETRY	NUMBER	NUMBER AND GEOMETRY, MEASUREMENT	FRACTIONS

Major Clusters are denoted with *
(Areas of intense focus, where students need fluent understanding and application of core concepts)

Module 1

Essential Questions

How can strategies be used to quickly add and subtract?
Would drawings or concrete materials be helpful in this situation?
Which is the best strategy to use to solve addition or subtraction problems?

Enduring Understandings

Students learn strategies based on place value, concrete models and drawings to add and subtract up to three-digit numbers within 1000.
Students will understand how to select strategies and explain their thinking when solving problems involving addition and subtraction. Students will continue to build fluency.

I Can Statements
I Can Use Addition and Subtraction to Help Me Understand Math

- I can use strategies to solve addition word problems.
- I can use strategies to solve subtraction word problems.
- I know my addition facts.
- I know my subtraction facts.

I Can Use Number Sense and Place Value to Help Me Understand Math

- I can add and subtract three-digit numbers.

Common Core State Standards Addressed in Module

Module 1: Mastery of Sums and Differences to 20 and Word problems to 100

Represent and solve problems involving addition and subtraction.*

2.OA.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.

Add and subtract within 20.*

2.OA.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.

Use place value understanding and properties of operations to add and subtract.*

2.NBT.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

Module 2
Enduring Understandings
Students will build their conceptual understanding of measurement. They will begin to understand the metric measurement system. Students will work on comparing and contrasting based on measurement and will be able to add and subtract units of measure.

Essential Questions
How can tools be used to determine measurement?
How can lengths be compared and contrasted?

What strategies can be used to add and subtract units of measure?

I Can Statements

I Can Use Measurement and Data to Help Me Understand Math

- I can use different tools to measure objects.
- I can compare the length of an object using two different units of measurement.
- I can estimate the lengths of objects.
- I can compare the length of two different objects.
- I can use addition and subtraction to solve measurement problems.
- I can make and use a number line.

Module 2: Addition and Subtraction with Length, Weight, Capacity, and Time Measurements

Measure and estimate lengths in standard units.*

2.MD.1 Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

2.MD.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.3 Estimate lengths using units of inches, feet, centimeters, and meters.

2.MD.4 Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

Relate addition and subtraction to length. *

2.MD.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.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.
Work with time and money.

2.MD.7 Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and
p.m.

Module 3
Enduring Understandings
Students will develop a deeper understanding of counting and place value.

Essential Questions
How can a number be represented in different ways?
How does the position of the digits in a number affect its value?

I Can Statements

I Can Use Number Sense and Place Value to Help Me Understand Math

- I can understand and use hundreds, tens and ones. 2.NBT.1
- I can count to 1,000 using 1s, 5s, 10s and 100s. 2.NBT.2
- I can read and write numbers to 1,000 in different ways. 2.NBT.3
- I can compare three-digit numbers using <, =, and >. 2.NBT.4

Module 3: Place Value, Counting, and Comparison of Numbers to 1000

Understand place value. *

2.NBT.1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:

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.2 Count within 1000; skip-count by 5s33, 10s, and 100s.

2.NBT.3 Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.

2.NBT.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.

Module 4

Enduring Understandings

Students will build their conceptual understanding of measurement. They will begin to understand the metric measurement system. Students will work on comparing and contrasting based on measurement and will be able to add and subtract units of measure. Students will expand their understanding of data using line plots, number lines, and charts.

Essential Questions

How can tools be used to determine measurement?

How can lengths be compared and contrasted?

What strategies can be used to add and subtract units of measure?

What tools help be organize data?

How can data be displayed in different ways?

How can graphs be used to organize and interpret data?

I Can Statements

I Can Use Measurement and Data to Help Me Understand Math

- I can use addition and subtraction to solve measurement problems.
- I can make and use a number line.
- I can count money to help me solve word problems.
- I can make a table to organize data.
- I can use a table to make a line plot.

I Can Use Addition and Subtraction to Help Me Understand Math

- I can use strategies to solve addition word problems.
- I can use strategies to solve subtraction word problems.

Module 5

Enduring Understanding

Students synthesize their understanding of addition and subtraction strategies and choose which strategy is most efficient for given problems. They defend their choices using place value language and their understanding of the properties of operations. Students continue to build their understanding of base 10 and place value.

Essential Questions

How can strategies help to quickly add and subtract?

Would drawings or concrete materials be helpful in this situation?

Which is the best strategy to use to solve this addition or subtraction problem?

How do I explain my mathematical thinking?

Why is it important to explain mathematical thinking?

I Can Statements

I Can Use Number Sense and Place Value to Help Me Understand Math

- I can add and subtract with regrouping.
- I can explain why I need to use addition or subtraction to help me solve problems.

Module 4 and Module 5: Addition and Subtraction of Numbers to 1000

Represent and solve problems involving addition and subtraction.*

2.OA.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.

Use place value understanding and properties of operations to add and subtract. *

2.NBT.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.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.

2.NBT.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.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.9 Explain why addition and subtraction strategies work, using place value and the properties of operations.

Module 6
Enduring Understandings
Students analyze shapes by reasoning with their geometric attributes. Students combine and partition shapes, building the foundation for learning about area, using arrays for multiplication, and understanding the concept of fractions as an area model.

Essential Questions

How can geometry help understand math?
What strategies can be used to understand parts and whole?
How does repeated addition and portioning shapes lead to multiplication?

I Can Statements

I Can Use Addition and Subtraction to Help Me Understand Math

- **I can group objects to tell if a number is odd or even.**
- **I can use repeated addition to help me understand multiplication.**

I Can Use Geometry to Help Me Understand Math

- **I can divide shapes into equal parts.**
- **I can use fractions to describe the equal parts of a shape.**

Module 6: Preparation for Multiplication and Division Facts

Work with equal groups of objects to gain foundations for multiplication. *

2.OA.3 Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s: write an equation to express an even number as a sum of two equal addends.

2.OA.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.

Reason with shapes and their attributes.

2.G.2 Partition a rectangle into rows and columns of same size squares and count to find the total
number of them.

Enduring Understandings

Students will build their conceptual understanding of measurement. They will begin to understand the standard measurement system. Students will work on comparing and contrasting based on measurement and will be able to add and subtract units of measure.

Students compare the physical features and relative values of coins, count collections of coins, select coins to acquire a given amount, and make change. Students engage in authentic problem solving involving money.

Students learn to associate A.M. and P.M. with events before noon and after noon respectively. In addition students learn to apply telling time to authentic real world situations.

Essential Questions

How can tools be used to determine measurement?

How can lengths be compared and contrasted?

What strategies can be used to add and subtract units of measure?

How are clocks used to tell time to the five minutes?

How can time be determined using either a digital or an analog clock?

How can A.M. and P.M. be distinguished when using a 12 hour clock?

How can events be put in order based on time?

How much money is represented?

How much money is needed to purchase?

When should money be spent, saved, or shared?

I Can Statements

I Can Use Measurement and Data to Help Me Understand Math

- I can use different tools to measure objects.
- I can compare the length of an object using two different units of measurement.
- I can estimate the lengths of objects.
- I can compare the length of two different objects.
- I can use addition and subtraction to solve measurement problems.
- I can make and use a number line.

Module 7: Comparison, Addition and Subtraction with Length and Money

Measure and estimate lengths in standard units. *

2.MD.1 Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

2.MD.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.3 Estimate lengths using units of inches, feet, centimeters, and meters.

2.MD.4 Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

Relate addition and subtraction to length. *

2.MD.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 problems.
2.MD.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.

Work with time and money.

2.MD.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?*

Represent and interpret data.

2.MD.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.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.

Enduring Understandings

Students will build their conceptual understanding of measurement. They will begin to understand the metric measurement system. Students will work on comparing and contrasting based on measurement and will be able to add and subtract units of measure.

Essential Questions

How can tools be used to determine measurement?

How can lengths be compared and contrasted?

What strategies can be used to add and subtract units of measure?

How can data be displayed in different ways?

How can graphs be used to organize and interpret data?

I Can Statements

I Can Use Measurement and Data to Help Me Understand Math

- I can tell time to five minutes.
- I can understand a.m. and p.m.

I Can Use Geometry to Help Me Understand Math

- I can name and draw shapes. (I know triangles, quadrilaterals, pentagons, hexagons and cubes.)
- I can divide shapes into equal parts.
- I can use fractions to describe the equal parts of a shape.

Module 8: Recognizing Angles, Faces, and Vertices of Shapes, Fractions of Shapes

Reason with shapes and their attributes.

2.G.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.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.

Major Clusters are denoted with *
(Areas of intense focus, where students need fluent understanding and application of core concepts)

Primary Resources
1. Eureka Math Program
2. Context for Learning

BPS Math Year at a Glance (Adapted from "A Story of Units" Curriculum Maps in Mathematics P-5)

3. Math Workshop Model
4. Do the Math
5. TenMarks

Essential Questions Defined:
Essential questions are broad concepts asked in question form. They help guide the teacher in teaching the unit and designing their lesson plan. We use the following five essential questions with all of our units, in all of our grades, across all of our subjects (Adapted from Rick DuFour)
1. What do students need to know and be able to do?
2. How will we teach them?
3. How will we know if they know and are able to do?
4. What will we do if they don't?
5. What will we do if they already know and are able to do prior to a lesson or unit beginning?

Enduring Understandings Defined:
Enduring understandings are statements that capture the important ideas that can be transferred to learning and doing beyond the classroom (Adapted from Grant Wiggins and Jay McTighe, Understanding by
Design).