



Grade 2 Essential Understandings

Standards of Mathematical Practice emphasized through the year in grades K-5:

- Make sense of problems and persevere in solving them
- Reason abstractly and quantitatively
- Construct viable arguments and critique the reasoning of others
- Model with mathematics
- Use appropriate tools strategically
- Attend to precision
- Look for and make use of structure
- Look for and express regularity in repeated reasoning

Grade 2 – Marking Period 1

Throughout the first marking periods students will build upon what students learned in first grade about addition and subtraction problems. The students will begin by deepening their understanding of addition and subtraction using strategies such as counting on, counting back, doubles, near doubles, make 10 to add to 20. By the end of the first marking period students will extend their understanding of addition and subtraction using strategies and algorithms to add within 100. Additionally, students will also focus on determining whether a number is even or odd and on finding the total number of objects in situations involving equal groups of objects.

Examples include:

Find $10 - 4$. Start with the lesser number.

You can count on to subtract.

Count on to 10 to find the **difference**.

4, 5, 6, 7, 8, 9, 10

It takes 6 moves to count on from 4 to 10.

So, $10 - 4 = 6$.

Draw each move as you count.

You can add on a hundred chart. Find $54 + 18$.

Start at 54. You need to add the **tens** from 18. Move down 1 row to show 1 ten.

Now add the **ones**.

You are already at 64. Now move ahead 8 to show 8 ones. You need to go to the next row to add them all. So, $54 + 18 = 72$.

Mathematical Focus	Topic Goals
<p>Numbers and Operations</p>	<p>Fluently Add and Subtract using mental strategies within 20. Fluently add within 100. Use Addition within 100 to solve one-step and two-step word problems. Solve Determine whether a group of objects (up to 20) has an odd or even number of members by pairing objects or counting them by 2's. Write an equation to express an even number as a sum of two equal addends.</p>

Grade 2 – Marking Period 2

During the second marking period students continue to extend their understanding of addition and subtraction using strategies and algorithms to add within 100. Students will also focus on representing and solving one-and two-step word problems involving situations of “add to,” “take from,” “put together,” “take-apart,” and “compare,” with unknown values in any position. Toward the end of the marking period students will explore solving problems involving coins and bills, telling time to the nearest 5 minutes using a.m. and p.m., and telling time before and after the hour.

Examples include:

$81 - 27 = ?$

You can use place value to break apart the number you are subtracting.

Break apart 27 into tens and ones. Then break apart the ones.

27
 $\swarrow \quad \searrow$
 $20 + 7$
 $\swarrow \quad \searrow$
 $1 + 6$

+

20
 $\swarrow \quad \searrow$
 $1 + 6$

$81 - 27 = \underline{\quad} ?$

20
 $\swarrow \quad \searrow$
 $1 \quad 6$

7
 $\swarrow \quad \searrow$
 $1 \quad 6$

Start at 81. Subtract 20 to get to 61. Then subtract 1 to get to 60. Then subtract 6 more.

51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90

So, $81 - 27 = \underline{54}$.

Another Look! Jamal has some green apples and 17 red apples. He has 29 apples in all. How many green apples does he have?

You can show word problems with drawings.

29

17

?

You can write an equation with a ? or another symbol for the part you don't know.

$? + 17 = 29$

Add mentally.

$17 + 10 = 27$

$27 + 2 = 29$

$12 + 17 = 29$, so Jamal has 12 green apples.

Mathematical Focus	Topic Goals
Numbers and Operations	Understand how to fluently subtract within 100. Use Addition and Subtraction within 100 to solve one-step and two-step word problems
Time	Understand that time can be told to the nearest 45 minutes. Time can be expressed using different units that are related to each other.
Money	Solve problems with coins and bills to help students understand that each coin or bill has a value unrelated to its physical size. Understand that money is measurable and can be quantified using dollar and cent amounts.

Grade 2 – Marking Period 3

Next students begin to extend their understanding of place value to 1,000. This understanding serves as a foundation for the next topic which requires students to add and subtract within 1,000 using models. At the end of the marking period students begin to explore the appropriate tools to estimate and measure length in customary units (inches, feet, and yards) and metric units (centimeters and meters). After exploring length students will apply their understanding with word problems.

Examples include:

Use any strategy to find $365 + 196$.

I'll make numbers that are easy to work with in my head.

I'll break apart the addends by place value.

One way to add is to add the hundreds, the tens, and the ones.

$$\begin{array}{r} 300 & 60 & 5 \\ +100 & +90 & +6 \\ \hline 400 & 150 & 11 \end{array}$$

I can add these sums in any order.

$$400 + 150 + 11 = 561$$

Another way to add is to use easier numbers.

196 is $200 - 4$. So, I can add 200, then take away 4.

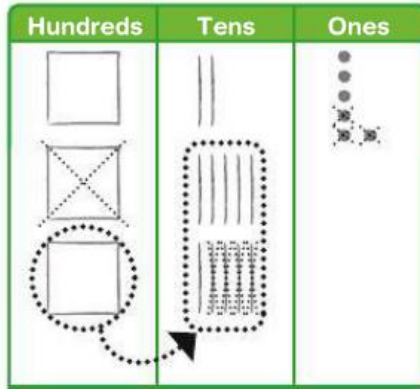
$$\begin{array}{r} 365 & 565 \\ +200 & -4 \\ \hline 565 & 561 \end{array}$$

We both used mental math! Both ways get the same answer!

So, $365 + 196 = 561$.

1.

Hundreds	Tens	Ones
2	12	
3	2	6
1	4	3
<hr/>		
1	8	3



Mathematical Focus	Topic Goals
Number Concepts	Understand place value by reading and writing numbers in standard and expanded form up to 1,000 but beginning with ones, tens, hundreds up to thousands. Add and Subtract within 1,000 using models and strategies. Fluently add and subtract within 100 using strategies.
Measurement and Data	Understand how to estimate the length of an object by relating the length of the object to a known measurement. Measure to the nearest centimeter, meter, inch, foot, and yard. Students will understand how to solve problems by adding or subtracting length measurements using drawing and equations.

In the last marking period, students will be introduced to collecting, representing, and interpreting data. Students will practice measurement skills to generate measurement data. They measure objects, and display the measurement data in a line plot. Next they will investigate attributes of shapes and use them to identify and draw triangles, quadrilaterals, pentagons, hexagons, and cubes.

Examples include:

You can use a table to record the measurement **data**.

Object	Length in Inches
Glue stick	2
String	4
Feather	6
Scissors	4

You can make a **line plot** to show the data. Place a dot over the number that shows each length.

The two dots above the 4 tell me that two objects are 4 inches long.

Lengths of Objects

Number of Inches

Another Look!

You can divide a rectangle into equal shares in different ways.

Each equal share has 5 squares.

Each rectangle has 3 equal shares. Each equal share has 5 squares.

Mathematical Focus	Topic Goals
Measurement and Data	Understand how to measure the lengths of objects and make a line plot to organize data. Draw bar groups and use them to solve problems. Draw conclusions from graphs and reason about

	data in bar graphs and picture graphs to write and solve problems.
Geometry	Recognize plan shapes by how they look. Draw polygon and cube shapes and describe how they look. Divide rectangles into rows and columns of equal size squares and divide circles and rectangles into halves, thirds, and fourths.