

**MOBILE COUNTY PUBLIC SCHOOLS
DIVISION OF CURRICULUM & INSTRUCTION
SECOND GRADE MATHEMATICS INSTRUCTIONAL PLANNING GUIDE
2017-2018: QTR 1**

**Qtr. 1: Weeks 1-3
August 8 – August 25 (14 days)
Grade 2, Unit 1: Place Value**

UNIT OVERVIEW: PLACE VALUE

In this unit, students will develop their understanding of the base-ten system. They will count by fives, tens, and ones, as well as understand and compare the number relationships involving these units. Students will understand multi-digit numbers written in base-ten notation, recognizing that the digits in each place represent amounts of tens or ones (e.g., 53 is 5 tens + 3 ones).

ESSENTIAL QUESTIONS:

- Why should we understand place value?
- How does the value of a digit change when its position in a number changes?
- What does “0” represent in a number?
- How do I determine if a number is odd or even?

KEY VOCABULARY:

greater than (>), less than (<), equal to (=), digit, number form, word form, expanded form, place value, ones, tens, hundreds, skip-count, units, base ten model, compare, odd, even

Standards/Objectives

Mastery Standards

Standards Clarification

[2-NBT.2] COUNT within 1000; skip-count by 5s, 10s and 100s.

- Second grade students count within 120. Thus, students “count on” from any number and say the next few numbers that come afterwards. Example: What are the next 3 numbers after 99? 100, 101, 102. When you count back from 101, what are the first 3 numbers that you say? 100, 99, 98.

[2-NBT.2] Count within 120 plus skip counting by 5s, 10s.

[2-NBT.3] READ and **WRITE** numbers to 1000 using base ten numerals, number names, and expanded form.

- Second grade students read, write and represent a number of objects with a written numeral (number form or standard form). These representations can include snap cubes, place value (base 10) blocks, pictorial representations or other concrete materials.
- Be cognizant that when reading and writing whole numbers, the word “and” should not be used (e.g., 116 is stated and written as “one hundred sixteen”).

[2-NBT.3] Read/write to 120 using base-ten numerals and number names including expanded form.

**MOBILE COUNTY PUBLIC SCHOOLS
DIVISION OF CURRICULUM & INSTRUCTION
SECOND GRADE MATHEMATICS INSTRUCTIONAL PLANNING GUIDE
2017-2018: QTR 1**

<p>[2-NBT.4] COMPARE 2 three-digit numbers based on meanings of the hundreds, tens, and ones digits using $>$, $=$, and $<$ symbols to record the results of comparisons.</p> <ul style="list-style-type: none"> When comparing numbers, students draw on the understanding that 1 hundred (the smallest three-digit number) is actually greater than any amount of tens and ones represented by a two-digit number. When students truly understand this concept, it makes sense that one would compare three-digit numbers by looking at the hundreds place first. This standard focuses on comparing two numbers and using reasoning about place value to support the use of the various symbols. 	<p>[2-NBT.4] Compare 3 digit numbers using symbols.</p>
<p>Opportunity for Depth Standards</p>	<p>Standards Clarification</p>
<p>[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.</p> <p>a. 100 can be thought of as a bundle of ten tens, called a “hundred.”</p> <p>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.)</p>	<p>[2-NBT.1] Place value hundreds, tens, and ones</p> <ul style="list-style-type: none"> Second Graders’ understanding about hundreds also moves through several stages: Counting by Ones; Counting by Groups & Singles; and Counting by Hundreds, Tens and Ones. Counting By Ones: At first, they rely on counting all of the individual cubes by ones to determine the final amount. It is seen as the only way to determine how many. Counting by Groups and Singles: While students are able to group objects into collections of hundreds, tens and ones and now tell how many groups of hundreds, tens and left-overs there are, they still rely on counting by ones to determine the final amount. They are unable to use the groups and left-overs to determine how many. Counting by Hundreds, Tens & Ones: Students are able to group objects into hundreds, tens and ones, tell how many groups and left-overs there are, and now use that information to tell how many.

**MOBILE COUNTY PUBLIC SCHOOLS
DIVISION OF CURRICULUM & INSTRUCTION
SECOND GRADE MATHEMATICS INSTRUCTIONAL PLANNING GUIDE
2017-2018: QTR 1**

<p>[2-OA.2] Fluently ADD and SUBTRACT within 20 using mental strategies. (See standard 6, Grade 1, for a list of mental strategies.) By end of Grade 2, know from memory all sums of 2 one-digit numbers.</p> <ul style="list-style-type: none"> Decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12$, $12 + 1 = 13$) 	<p>[2-OA.2] Fluently add and subtract within 20.</p> <p><i>Basic Fact Assessment: Addition within 20</i></p>		
<p style="text-align: center;">Supporting Standards</p>		<p style="text-align: center;">Standards Clarification</p>	
<p>[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.</p> <ul style="list-style-type: none"> Second graders apply their work with doubles to the concept of odd and even numbers. Students should have ample experiences exploring the concept that if a number can be decomposed (broken apart) into two equal addends or doubles addition facts (e.g., $20 = 10 + 10$), then that number (20 in this case) is an even number. Students should explore this concept with concrete objects (e.g., counters, cubes, etc.) before moving towards pictorial representations such as circles or arrays. 	<p>[2-OA.3] odd/even</p>		
<p>Resources for Quarter 1, Unit 1 <i>Some tasks may need to be modified to follow MCPSS pacing.</i></p>			
<p>Engage New York Module 3 Topics A, B, C - (NBT1, NBT2, NBT3, NBT4) https://www.engageny.org/resource/grade-2-mathematics-module-3</p> <p>Module 6 Topic D (OA3 – odd/even numbers) https://www.engageny.org/resource/grade-2-mathematics-module-6-topic-d</p>	<p>Georgia Standards Unit 1 - (NBT1, NBT2, NBT3, NBT4) https://www.georgiastandards.org/Georgia-Standards/Frameworks/2nd-Math-Unit-1.pdf</p> <p>Unit 6 - (OA3) https://www.georgiastandards.org/Georgia-Standards/Frameworks/2nd-Math-Unit-6.pdf</p> <ul style="list-style-type: none"> Are We Odd or Even? 	<p>Howard County - (NBT1, NBT2, NBT3, NBT4, OA2, OA3) https://hcpss.instructure.com/courses/106/pages/grade-2-year-at-a-glance</p>	<p>Math In Focus Chapter 1 Lesson 1-4 – (NBT1, NBT2, NBT3, NBT4) Chapter 2 Lesson 1 – (OA2) Chapter 6 Lesson 6 – (OA3)</p>
<p>Xtra Math https://xtramath.org/#/home/index <i>Free, individualized web based program that helps to build student fluency.</i></p>			

**MOBILE COUNTY PUBLIC SCHOOLS
DIVISION OF CURRICULUM & INSTRUCTION
SECOND GRADE MATHEMATICS INSTRUCTIONAL PLANNING GUIDE
2017-2018: QTR 1**

Focus Standards for Mathematical Practice
--

MP.3 Construct viable arguments and critique the reasoning of others.

MP.4 Model with mathematics.

MP.6 Attend to precision.

MP.7 Look for and make use of structure.
--

MP.8 Look for and express regularity in repeated reasoning.

**MOBILE COUNTY PUBLIC SCHOOLS
DIVISION OF CURRICULUM & INSTRUCTION
SECOND GRADE MATHEMATICS INSTRUCTIONAL PLANNING GUIDE
2017-2018: QTR 1**

**Qtr. 1: Weeks 4-6
August 28 – September 15 (14 days)
Grade 2, Unit 2 Extending Place Value**

UNIT OVERVIEW: EXTENDING PLACE VALUE

In this unit, students extend their understanding of the base-ten system. They will count by fives, tens, and ones, as well as understand and compare the number relationships involving these units. Students will understand multi-digit numbers (up to 250) written in base-ten notation, recognizing that the digits in each place represent amounts of hundreds, tens, or ones (e.g., 223 is 2 hundreds + 2 tens + 3 ones)

ESSENTIAL QUESTIONS:

What is the difference between place and value?
How does place value help us add and subtract?
How do I determine if a number is odd or even?

KEY VOCABULARY:

greater than (>), less than (<), equal to (=), digit, number form, word form, expanded form, place value, tens, hundreds, skip-count, compare, odd, even, addition/add, sum, subtraction/subtract, difference, compose, decompose

Standards/Objectives

Mastery Standards

Standards Clarification

[2-NBT.2] COUNT within 1000; skip-count by 5s, 10s and 100s.

- Second grade students count within 120. Thus, students “count on” from any number and say the next few numbers that come afterwards. Example: What are the next 3 numbers after 99? 100, 101, 102. When you count back from 101, what are the first 3 numbers that you say? 100, 99, 98.

[2-NBT.2] Count within 250 plus skip counting by 5s, 10s.

[2-NBT.3] READ and WRITE numbers to 1000 using base ten numerals, number names, and expanded form.

- Be cognizant that when reading and writing whole numbers, the word “and” should not be used (e.g., 116 is stated and written as “one hundred sixteen”).

[2-NBT.3] Read/write to 250 using base-ten numerals and number names including 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.

- While students may have the skills to order more than 2 numbers, this standard focuses on comparing two numbers and using reasoning about place value to support the use of the various symbols

[2-NBT.4] Compare 3 digit numbers using symbols.

MOBILE COUNTY PUBLIC SCHOOLS
 DIVISION OF CURRICULUM & INSTRUCTION
 SECOND GRADE MATHEMATICS INSTRUCTIONAL PLANNING GUIDE
 2017-2018: QTR 1

Opportunity for Depth Standards	Standards Clarification
<p>[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.</p> <p>a. 100 can be thought of as a bundle of ten tens, called a “hundred.”</p> <p>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.)</p>	<p>[2-NBT.1] Place value hundreds, tens, and ones</p> <ul style="list-style-type: none"> Understanding the value of the digits is more than telling the number of tens or hundreds. Second Grade students who truly understand the position and place value of the digits are also able to confidently model the number with some type of visual representation. Others who seem like they know, because they can state which number is in the tens place, may not truly know what each digit represents.
<p>[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 and subtraction 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.</p> <ul style="list-style-type: none"> This standard also references composing and decomposing a ten. This work should include strategies such as making a 10, making a 100, breaking apart a 10, or creating an easier problem. The standard algorithm of carrying or borrowing is not an expectation in Second Grade. 	<p>[2-NBT.7] Add and subtract within 100 using CONCRETE MODELS or DRAWINGS.</p>
<p>[2-OA.2] Fluently ADD and SUBTRACT within 20 using mental strategies. (See standard 6, Grade 1, for a list of mental strategies.) By end of Grade 2, know from memory all sums of 2 one-digit numbers.</p>	<p>[2-OA.2] Fluently add and subtract within 20.</p> <p><i>Basic Fact Assessment: Addition within 20</i></p>

MOBILE COUNTY PUBLIC SCHOOLS
 DIVISION OF CURRICULUM & INSTRUCTION
 SECOND GRADE MATHEMATICS INSTRUCTIONAL PLANNING GUIDE
 2017-2018: QTR 1

Supporting Standards	Standards Clarification		
<p>[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.</p> <ul style="list-style-type: none"> An even number is an amount that can be made of two equal parts with no leftovers. An odd number is one that is not even or cannot be made of two equal parts. The number endings of 0, 2, 4, 6, and 8 are only a useful pattern or observation and should not be used as the definition of an even number. 	<p>[2-OA.3] odd/even</p>		
<p>Resources for Quarter 1, Unit 2 <i>Some tasks may need to be modified to follow MCPSS pacing.</i></p>			
<p>Engage New York Module 3 Topics A, B, C - (NBT1, NBT2, NBT3, NBT4) https://www.engageny.org/resource/grade-2-mathematics-module-3</p> <p>Module 6 Topic D (Lesson 17) - (OA3 – odd/even numbers) https://www.engageny.org/resource/grade-2-mathematics-module-6-topic-d</p> <p>Module 4 Topic A - (NBT7) https://www.engageny.org/resource/grade-2-mathematics-module-4-topic</p> <p>Module 5, Topic A - (NBT7) https://www.engageny.org/resource/grade-2-mathematics-module-5-topic</p>	<p>Georgia Standards Unit 4 - (NBT 7) https://www.georgiastandards.org/Georgia-Standards/Frameworks/2nd-Math-Unit-4.pdf</p> <ul style="list-style-type: none"> Base Ten Pictures Take 100 <p>Unit 1 – (NBT1, NBT2, NBT3, NBT4) https://www.georgiastandards.org/Georgia-Standards/Frameworks/2nd-Math-Unit-1.pdf</p> <p>Unit 6 - (OA3) https://www.georgiastandards.org/Georgia-Standards/Frameworks/2nd-Math-Unit-6.pdf</p> <ul style="list-style-type: none"> Are We Odd or Even? 	<p>Howard County - (NBT1, NBT2, NBT3, NBT4, NBT7, OA1, OA2) https://hcpss.instructure.com/courses/106/pages/grade-2-year-at-a-glance</p>	<p>Math In Focus Chapter 1 Lessons 1-4 – (NBT1, NBT2, NBT3, NBT4) Chapter 2 Lessons 1-5 – (NBT7, OA2) Chapter 3 Lessons 1-4 – (NBT7) Chapter 5 Lesson 6 – (OA3)</p>
<p>Xtra Math https://xtramath.org/#/home/index <i>Free, individualized web based program that helps to build student fluency.</i></p>			
<p>Focus Standards for Mathematical Practice</p>			
MP.3 Construct viable arguments and critique the reasoning of others.			
MP.4 Model with mathematics.			
MP.7 Look for and make use of structure.			
MP.8 Look for and express regularity in repeated reasoning.			

**MOBILE COUNTY PUBLIC SCHOOLS
DIVISION OF CURRICULUM & INSTRUCTION
SECOND GRADE MATHEMATICS INSTRUCTIONAL PLANNING GUIDE
2017-2018: QTR 1**

Qtr. 1: Weeks 7-9

September 18 – October 6 (15 days)

Grade 2, Unit 3 Extending Place Value

UNIT OVERVIEW: EXTENDING PLACE VALUE

In this unit, students extend their understanding of the base-ten system. They will count by fives, tens, and ones, as well as understand and compare the number relationships involving these units. Students will understand multi-digit numbers (up to 500) written in base-ten notation, recognizing that the digits in each place represent amounts of hundreds, tens, or ones (e.g., 223 is 2 hundreds + 2 tens + 3 ones)

ESSENTIAL QUESTIONS:

What is the difference between place and value?
How does place value help us solve problems?
How does place value help us add and subtract?

KEY VOCABULARY:

greater than (>), less than (<), equal to (=), digit, number form, word form, expanded form, place value, tens, hundreds, skip-count, compare, odd, even, addition/add, sum, subtraction/subtract, difference, compose, decompose

Standards/Objectives

Mastery Standards

Standards Clarification

[2-NBT.2] COUNT within 1000; skip-count by 5s, 10s and 100s.

- Second grade students also begin to work towards multiplication concepts as they skip count by 5s, by 10s, and by 100s. Although skip counting is not yet true multiplication because students don't keep track of the number of groups they have counted, they can explain that when they count by 2s, 5s, and 10s they are counting groups of items with that amount in each group.

[2-NBT2] Count within 500 plus skip counting by 5s, 10s.

[2-NBT.3] READ and WRITE numbers to 1000 using base ten numerals, number names, and expanded form.

[2-NBT.3] Read/write to 500 using base-ten numerals and number names including 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.

- While students may have the skills to order more than 2 numbers, this standard focuses on comparing two numbers and using reasoning about place value to support the use of the various symbols.

[2-NBT.4] Compare 3 digit numbers using symbols.

MOBILE COUNTY PUBLIC SCHOOLS
 DIVISION OF CURRICULUM & INSTRUCTION
 SECOND GRADE MATHEMATICS INSTRUCTIONAL PLANNING GUIDE
 2017-2018: QTR 1

Opportunity for Depth Standards	Standards Clarification
<p>[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.</p> <ul style="list-style-type: none"> Understand that in adding and subtraction 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. This standard also references composing and decomposing a ten. This work should include strategies such as making a 10, making a 100, breaking apart a 10, or creating an easier problem. The standard algorithm of carrying or borrowing is not an expectation in Second Grade. 	<p>[2-NBT.7] Add and subtract within 100 using CONCRETE MODELS or DRAWINGS.</p>
<p>[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</p> <ul style="list-style-type: none"> One-step word problems use one operation. As second grade students solve one step problems they use manipulatives such as snap cubes, place value materials (groupable and pre-grouped), ten frames, etc.; create drawings of manipulatives to show their thinking; or use number lines to solve and describe their strategies. They then relate their drawings and materials to equations. By solving a variety of addition and subtraction word problems, second grade students determine the unknown in all positions (Result unknown, Change unknown, and Start unknown). Rather than a letter (“n”), boxes or pictures are used to represent the unknown number. 	<p>[2-OA.1] One step problems easy types (NO 2 step problems)</p> <p><u>Compare Difference Unknown</u> (“How many more?” version): Lucy has two apples. Julie has five apples. How many more apples does Julie have than Lucy?</p> <p><u>Put Together/Take Apart Addend Unknown</u> Five apples are on the table. Three are red and the rest are green. How many apples are green? $3 + \square = 5$, $5 - 3 = \square$</p> <p><u>Add to Change Unknown</u> Two bunnies were sitting on the grass. Some more bunnies hopped there. Then there were five bunnies. How many bunnies hopped over to the first two? $2 + \square = 5$</p> <p><u>Take From Change Unknown</u> Five apples were on the table. I ate some apples. Then there were three apples. How many apples did I eat? $5 - \square = 3$</p>

**MOBILE COUNTY PUBLIC SCHOOLS
DIVISION OF CURRICULUM & INSTRUCTION
SECOND GRADE MATHEMATICS INSTRUCTIONAL PLANNING GUIDE
2017-2018: QTR 1**

<p>[2-OA.2] Fluently ADD and SUBTRACT within 20 using mental strategies. (See standard 6, Grade 1, for a list of mental strategies.) By end of Grade 2, know from memory all sums of 2 one-digit numbers.</p>	<p>[2-OA.2] Fluently add and subtract within 20. <i>Basic Fact Assessment: Addition within 20</i></p>		
<p>Resources for Quarter 1, Unit 3 <i>Some tasks may need to be modified to follow MCPSS pacing.</i></p>			
<p>Engage NY Module 3 Topics A, B, C, E, F - (NBT1, NBT2, NBT3, NBT4) https://www.engageny.org/resource/grade-2-mathematics-module-3</p> <p>Module 6 Topic D (Lesson 17) - (OA3 odd/even numbers) https://www.engageny.org/resource/grade-2-mathematics-module-6-topic-d-lesson-17</p> <p>Module 1 Topic A - (OA1, OA2) https://www.engageny.org/resource/grade-2-mathematics-module-1</p>	<p>Georgia Standards Unit 4 - (NBT7) https://www.georgiastandards.org/Georgia-Standards/Frameworks/2nd-Math-Unit-4.pdf</p> <ul style="list-style-type: none"> • Perfect 500 • I Have/You Have a Story • Money in my Pocket • The Candy Bowl 	<p>Howard County - (NBT2, NBT3, NBT4, NBT7, OA1, OA2) https://hcpss.instructure.com/courses/106/pages/grade-2-year-at-a-glance</p>	<p>Math In Focus Chapter 2 Lesson 1 – (OA2) Chapter 4 Lessons 1-4 – (NBT7, OA1)</p>
<p>Xtra Math https://xtramath.org/#/home/index <i>Free, individualized web based program that helps to build student fluency.</i></p>			
<p>Focus Standards for Mathematical Practice</p>			
<p>MP.2 Reason abstractly and quantitatively.</p>			
<p>MP.5 Use appropriate tools strategically.</p>			
<p>MP.7 Look for and make use of structure.</p>			
<p>MP.8 Look for and express regularity in repeated reasoning.</p>			