

**GRADE 2 UNIT 1 – ADD AND SUBTRACT WITHIN 100 UNDERSTAND PLACE VALUE WITHIN 1000**

<p><b>Established Goals:</b></p> <p>Standards</p> <p><b><u>Operations and algebraic thinking</u></b></p> <p><b>2.0A.1</b> 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.</p> <p><b><u>Numbers base ten</u></b></p> <p><b>2.NBT.1</b> Count within 1000; skip-count by 5s, 10s, and 100s.</p> <p><b>2.NBT.2</b> Count within 1,000; skip count by 5s, 10s, and 100s.</p> <p><b>2.NBT.3</b> Read and write numbers to 1,000 using base ten numerals, number names, and expanded form.</p>	<b>Transfer</b>	
	<p><i>Students will be able to:</i></p> <p>Use strategies to be able to add and subtract within 100 in order to solve real world 2 and 3 digit problems.</p> <p>Read, identify, and understand the value of a number and its various forms, and its place value.</p>	
	<b>Meaning</b>	
	ENDURING UNDERSTANDING	ESSENTIAL QUESTIONS
	<ul style="list-style-type: none"> <li>Students will understand that there are a variety of strategies to solve problems, which include: drawing pictures, adding to, taking from, putting together, taking apart, and comparing numbers.</li> <li>Students will understand that 3 digit numbers represent amounts in hundreds, tens, and ones</li> <li>Numbers can be represented in various forms.</li> </ul>	<ul style="list-style-type: none"> <li>Which strategy should I use to solve this problem?</li> <li>How do I read and tell the value of a number that is in a specific place to help me solve a problem?</li> <li>Why did I use this strategy or symbol to solve the problem?</li> </ul>
	<b>Acquisition</b>	
	KNOWLEDGE	SKILLS
	<i>Students will know how to...</i>	<i>Students will be skilled at...</i>

<p><b>2.NBT.4</b> Compare two three –digit numbers based on meaning of the hundreds, tens and ones digits, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of the comparisons</p>	<ul style="list-style-type: none"> <li>•Number and place value to the hundreds place using various forms</li> <li>•Symbols plus, minus, greater than, less than, equal to</li> <li>•Appropriate math vocabulary</li> <li>•Strategies of addition and subtraction</li> <li>•Know single addition and subtraction facts</li> </ul>	<ul style="list-style-type: none"> <li>•Read and write numbers and symbols correctly in various forms</li> <li>•Count on to add and to write an equation</li> <li>•Count back to subtract and to write an equation.</li> <li>•Solve single addition and subtraction facts</li> </ul>
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Vocabulary	Instruction and Pacing (suggested order to teach)	
Addition subtraction equation solve place value expanded form	<b>PreTest</b>	<b>1 Day</b>
Sum difference symbol fact family standard form	<b>Basic Facts Strategy Review /Math Routines/15 Minute Math</b>	<b>1 Week</b>
Whole strategy hundreds tens ones word form	<b>Solve Problems Addition &amp; Subtraction within 20</b>	<b>1 Week</b>
Minus addend greater than $>$ less than $<$ equal to $=$	<b>Counting &amp; Skip Counting</b>	<b>1 Week</b>
	<b>Place Value – Standard Form/Expanded Form/Word Form</b>	<b>2 Weeks</b>
	<b>Comparing up to 3 Digit Numbers using <math>&gt;</math> <math>&lt;</math> and <math>=</math></b>	<b>1 Week</b>
	<b>Benchmark Testing &amp; Reteaching</b>	<b>2 Weeks</b>
Common Misconceptions	Proper Conceptions	
Early in the year student have difficulty finding sums and differences for Basic Facts	Practicing and reviewing facts strategies help to find sums and differences	

Early in the year students confuse the plus and minus sign	Writing/Tracing and saying the word <b>plus</b> or <b>minus</b> when writing number sentences help to remember the names and meanings of each sign
In word problems children have difficulty choosing the operation	Acting out or explaining the story and deciding if you are taking away from a group or putting two groups together helps to “see” the problem
Students have difficulty skip counting when starting at the beginning of a sequence	A hundreds chart can help to skip count by 2’s, 5’s and 10’s
Students are not sure when to regroup	Using place value blocks and cubes can help us to see when to regroup
Students are not sure how to record the new numbers once they regroup	Connecting place value blocks and cubes show the connection to the written number
Students add or subtract in the tens column first	Steps to adding and subtracting 2 and 3 digit numbers start in the ones column
Students mix up tens and ones when counting place value blocks or visuals of tens and ones	Count and say out loud the tens first, then count the ones
Students place numbers the wrong spots on the place value charts	Reading and using labels on Place Value Charts help us organize numbers correctly
Students incorrectly write the values when using expanded form	Writing, counting and recording values one at a time help us with expanded form.
Students mix up the greater and less than sign	Always compare the first number Saying out loud “ ___ is greater or less than _____ ”

### Resources

New Jersey Model Curriculum, Common Core Standards

Envisions Math Program Suggested Topics

Topic 2 Understanding Addition

Topic 3 Subtraction Strategies

Topic 5 Place Value to 100

Topic 10 Place Value to 1000

MANIPULATIVES AND GRAPHIC ORGANIZERS FOR UNIT 1 - Two-Sided Counters, Unifix Cubes, Base Ten Blocks, Hundreds Chart, Place Value Math, Templates for Communicators/Smart Pal Sleeves

<https://grade2commoncoremath.wikispaces.hcpss.org/>

RAC Gr. 3 Windows, <http://illuminations.nctm.org>, <https://www.illustrativemathematics.org>

**Additional Resource for ELL Learners**

**Envision Spanish Version Digital Path & Printable Resources**

<http://www.sightwordsgame.com/wp-content/uploads/2013/07/Counting-Chart-Numbers-1-to-1001.pdf>

<https://www.superteacherworksheets.com/skip-counting-5s.html>

<http://www.funtimesinfirst.com/comparing-two-digit-numbers/#sthash.ncNVK2VS.dpbs>

<http://www.mathworksheets4kids.com/place-value.html>

<https://www.ixl.com/math/grade-2/skip-counting-sequences>

<http://www.dreambox.com/teachertools> activities for interactive whiteboard, some available in Spanish

<http://www.state.nj.us/education/modelcurriculum/math/ellscaffolding/2u1.pdf>

**Math site for parents and Math from different countries** <http://www.aaamaticas.com/>

**Differentiation and Accommodations**

Provide graphic organizers

Provide additional examples and opportunities for additional problems for repetition

Provide tutoring opportunities

Provide retesting opportunities after remediation (up to teacher and district discretion)

Teach for mastery not test

Teaching concepts in different modalities

Adjust pace and homework assignments

**Modifications for ELL Learners**

- Assess/teach prerequisite skills
- Use math manipulatives for all activities. (multilink cubes, base 10 blocks, place value mats, hundreds chart)
- Teach a variety of strategies that students can use to problem solve (act it out, manipulatives, draw a picture, etc.)
- Allow students to break down 2-step word problems using number sentence frames and draw it out or use manipulatives.
- Read all directions and word problems. Translate if necessary.
- Anchor charts /Illustrated reference charts
- Visual vocabulary/ Student illustrated words walls for key math terms
- Utilize Envision Spanish Version/Interactive Path and Printable Resources

<b>21<sup>st</sup> Century Skills</b>	Critical Thinking, Creative Thinking, Collaborating, Communicating, and Technology Literacy
<b>Instructional Strategies</b>	Fairfield Township School recognizes the importance of the varying methodologies that may be successfully employed by teachers within the classroom and, as a result, identifies a wide variety of possible instructional strategies that may be used effectively to support student achievement. These may include, but not be limited to, strategies that fall into categories identified by the Framework for Teaching by Charlotte Danielson: <ul style="list-style-type: none"><li>• Communicating with students</li><li>• Using questioning and discussion techniques</li><li>• Engaging students in learning</li><li>• Using assessment in instruction</li><li>• Demonstrating Flexibility and Responsiveness</li></ul>
<b>Interdisciplinary Connections</b>	ELA, Science, and Technology

### Performance Task

You are a principal at a school. You are getting a new addition built onto your school. It will have space for 459 new students from other schools.

- Using the chart below write the number of students from other schools in order from greatest to least.
- Select any two schools and write  $<$ ,  $>$ , or  $=$  to compare the number of students.
- What two schools together could send all of their students to fill the most spaces available at the new addition?

SCHOOL	STUDENTS
North Side	213
East Side	355
South Side	142
West Side	162

#### Rubric

**3 Points** - Student puts numbers in correct order, uses compare sign correctly, and adds two numbers that add up to the largest sum without exceeding 459.

**2 Points** - Student puts numbers in correct order, uses compare sign correctly, and adds two numbers but do not add up correctly or to the largest sum without exceeding 459.

**1 Point** - Student puts numbers mostly in order, uses compare sign correctly, but fails to add two numbers correctly or to the greatest sum without exceeding 459.

**0 Points** - Student does not show understanding of the task at hand.

# ASSESSMENTS

## **Suggested Formative Assessment**

Problem of the Day

Lesson Quizzes

Exit Ticket

Anecdotal Records (Topic Observation Checklist)

**Suggested Summative Assessment** - Grade Level developed Unit/Envisions Topic Tests/ Ed Connect Tests/ State Unit Benchmark/Performance Task