GRADE 1 UNIT 3 – UNDERSTAND PLACE VALUE

Established Goals:
Standards

NUMBER & BASE TEN

1.NBT.B.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:

1.NBT.B.2c The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

1.NBT.B.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.

1.NBT.C.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, 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 and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten

1.NBT.C.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

1.NBT.C.6 Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), 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 and explain the reasoning used.

Mathematical Practice Standards

Use appropriate tools strategically.

Look for and make use of structure.

Transfer

Students will be able to:

- Use knowledge of place value to add and subtract two digit numbers.
- Use addition and subtraction strategies to solve real world problems

Meaning

ENDURING UNDERSTANDING	ESSENTIAL QUESTIONS
• Sets can be perceived as single entities. • The decade numbers to 100 can be separated into sets of ten. • Numbers can be used to tell how many. • Numbers greater than 10 can be represented as the sum of tens and ones. • Place value can be used to compare and order numbers. • When adding and subtracting ten to a 2 digit number only the ten changes. • Traditional algorithm when adding and subtracting a 2 digit number by a 2 digit number stars with the ones.two digits of a two digit number represent amounts of tens and ones.	• How does grouping by ten help us understand place value? • How can we use tens and ones to add and subtract two digit number?

Acquisition

KNOWLEDGE	SKILLS
Students will know how to… • Meaning of tens and ones in a 2-digit	*Students will be skilled at…* • Group objects into tens and ones.

Construct viable arguments and critique the reasoning of others. Make sense of problems and persevere in solving them. Reason abstractly and quantitatively	number. • Comparison of numbers uses greater than, less than or equals to symbols. • Concrete models and drawings can be used to add 2-digit and 1-didigt numbers and 2-digit multiples of 10. • Decomposing a 2-digiot number is an addition strategy. • Counting by tens is a mental math strategy used for addition. • Basic Facts	• Compare 2-digt numbers by using models to determine which number is greater or less than the other number. • Add or subtract 2-digit numbers by modeling with cubes to compose and decompose numbers. • Add or subtract 2-digit numbers using a numbers charts to show how numbers are related.

Vocabulary	Instruction and Pacing (suggested order to teach)	
Tens ones digit break -apart decompose pattern Greater than less than equal to sum skip count Hundred chart mental math basic facts difference	**Counting & Number Patterns**	**2 Weeks**
	Place Value	**2 Weeks**
	Comparing Numbers Greater/Less Than	**2 Weeks**
	100 Day Celebration	**1 Day**
	Benchmark Testing & Reteaching	**2 Weeks**

Common Misconceptions	Proper Conceptions
Students have difficulty seeing ten objects as one group of ten	Our number system organizes numbers in groups of ten
Students miscount on a Hundreds Chart	Always point and say each number when using a Hundreds Chart
Students miscount when counting larger numbers for grouping in tens	Mark or separate objects being counted when working with larger numbers
When estimating - the larger the manipulative the larger the quantity	Consider the size of objects being counted or use a benchmark/anchor to compare
Students write the number of tens instead of the value (4 instead of 40)	Practice saying and writing 4 tens is 40 or 7 tens is 70
Students incorrectly regroup tens and ones	Models/Drawings of tens and ones can show us how to regroup
Students add in the tens column before the ones column	Steps for add/sub help us to add and subtract correctly
Students use the number in the ones column to compare greater or less	Always use the largest place value when comparing numbers
Students mix up the greater and less than signs	Emphasize the first number is either greater > or less < than the second

Resources

Common Core Standards, New Jersey Model Curriculum

Envisions Math Program Suggested Topics

Topic 7 Counting and Number Patterns to 120

Topic 8 Tens and Ones

Topic 9 Comparing and Ordering Numbers to 100

Topic 10 Adding with Tens and Ones

MANIPULATIVES AND GRAPHIC ORGANIZERS – Base Ten Blocks (tens, ones, hundreds), Unifix Cubes, Math Templates for Unit 3

, http://illuminations.nctm.org, https://www.illustrativemathematics.org, https://grade1commoncoremath.wikispaces.hcpss.org

Recommendations for ELL Learners

Envisions Spanish Resources & Printable Resources

http://www.njctl.org/courses/math/1st-grade/place-value/

http://www.njctl.org/courses/math/1st-grade/2-digit-addition/

http://www.state.nj.us/education/modelcurriculum/math/ellscaffolding/1u3.pdf

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

ELL Modifications

- Use math manipulatives for all activities. (base 10 blocks and tens/ones mats)
- Create charts showing numerals, number words, and place value blocks.
- Use sentence frames to help students talk about the place value of numbers. (Example: There are ___ tens and ___ ones. My number is ____.)
- Use balance scales to understand greater than, less than, equal to.

• Utilize Spanish Version Envisions – Interactive Digital Path and Printable Resources	
21st Century Skills	Critical Thinking, Creative Thinking, Collaborating, Communicating, and Technology Literacy
Instructional Strategies	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: • Communicating with students • Using questioning and discussion techniques • Engaging students in learning • Using assessment in instruction • Demonstrating Flexibility and Responsiveness
Interdisciplinary Connections	ELA, Science, and Technology

Performance Task
Suggested 100 Day Project **Read Aloud: Set, 100th Day, Go.** **Students will** **Create a poster of 100 items organized in groups of ten.** **Students will present their 100 Day Projects to the class.** **Use hundred poster to develop comparison problems.** **Use 100 posters to develop a word problem book with addition and subtractions of a 2-digit and 1-digit numbers, and a 2-digit number and a multiple of ten.** **Students record a number sentence and solve the problem.** **Rubric** **•3 point response: The student correctly groups 100 items by ten. Develops a correct comparison problem, creates an addition and subtraction**

problem and includes a number sentence and solves problem correctly.

*** 2 point response: The student correctly groups 100 items by ten. Develops a correct comparison problem, creates an addition and subtraction problem and includes a number sentence and solves problem incorrectly.**

*** 1 point response: Able to groups items by 100. Unable to make a comparison. Creates an addition and subtraction problem but does not include a number sentence and solves problem incorrectly.**

0 point response: No understanding of place value and is unable to complete the task.

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