

Unit F - To 100 and Beyond!

Overview

The focus of this unit is on place value, deepening understanding of numbers to 120. Students will estimate, count, compare, add, and subtract two-digit numbers using models including the number line and sticks & bundles. Computation strategies, such as making “jumps” of 2s, 5s, and 10s on pathways develop students’ problem solving ability. The use of coins is incorporated to further explore place value at the end of the unit.

21st Century Capacities: Synthesizing

Stage 1 - Desired Results

<p>ESTABLISHED GOALS/ STANDARDS</p> <p>MP1 Make sense of problems and persevere in solving them MP 4 Model with mathematics.</p> <p>CCSS.MATH.CONTENT.1.OA.A.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>CCSS.MATH.CONTENT.1.NBT.A.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.</p> <p>CCSS.MATH.CONTENT.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: CCSS.MATH.CONTENT.1.NBT.B.2.A 10 can be</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="background-color: #D3D3D3; text-align: center; padding: 5px;">Transfer:</th> </tr> <tr> <td colspan="2" style="padding: 5px;"><i>Students will be able to independently use their learning in new situations to...</i></td> </tr> <tr> <td colspan="2" style="padding: 5px;"> <ol style="list-style-type: none"> 1. Apply their knowledge of place value to solve problems in novel situations using a variety of strategies. (Synthesizing) 2. Build models in order to visualize, compose or decompose quantities </td> </tr> <tr> <th colspan="2" style="background-color: #D3D3D3; text-align: center; padding: 5px;">Meaning:</th> </tr> <tr> <td style="width: 50%; padding: 5px;"> <p>UNDERSTANDINGS: <i>Students will understand that:</i></p> <ol style="list-style-type: none"> 1. Strategies help us to recognize relationships between numbers in order to add and subtract efficiently; 2. Units of 1, 10, and 100 are fundamental elements of our number system (base ten); 3. Mathematicians use models to represent and make meaning of quantitative relationships; 4. The placement of a digit within a given number determines the value, or the unit that the digit represents. </td> <td style="width: 50%; padding: 5px;"> <p>ESSENTIAL QUESTIONS: <i>Students will explore & address these recurring questions:</i></p> <ol style="list-style-type: none"> A. How can I break a problem down into easier parts? B. How can counting patterns help me to understand large numbers? C. How can I use models and strategies help me to solve this problem? How do I know if it’s right? D. Is this an efficient way to solve this problem? </td> </tr> </table>	Transfer:		<i>Students will be able to independently use their learning in new situations to...</i>		<ol style="list-style-type: none"> 1. Apply their knowledge of place value to solve problems in novel situations using a variety of strategies. (Synthesizing) 2. Build models in order to visualize, compose or decompose quantities 		Meaning:		<p>UNDERSTANDINGS: <i>Students will understand that:</i></p> <ol style="list-style-type: none"> 1. Strategies help us to recognize relationships between numbers in order to add and subtract efficiently; 2. Units of 1, 10, and 100 are fundamental elements of our number system (base ten); 3. Mathematicians use models to represent and make meaning of quantitative relationships; 4. The placement of a digit within a given number determines the value, or the unit that the digit represents. 	<p>ESSENTIAL QUESTIONS: <i>Students will explore & address these recurring questions:</i></p> <ol style="list-style-type: none"> A. How can I break a problem down into easier parts? B. How can counting patterns help me to understand large numbers? C. How can I use models and strategies help me to solve this problem? How do I know if it’s right? D. Is this an efficient way to solve this problem?
Transfer:											
<i>Students will be able to independently use their learning in new situations to...</i>											
<ol style="list-style-type: none"> 1. Apply their knowledge of place value to solve problems in novel situations using a variety of strategies. (Synthesizing) 2. Build models in order to visualize, compose or decompose quantities 											
Meaning:											
<p>UNDERSTANDINGS: <i>Students will understand that:</i></p> <ol style="list-style-type: none"> 1. Strategies help us to recognize relationships between numbers in order to add and subtract efficiently; 2. Units of 1, 10, and 100 are fundamental elements of our number system (base ten); 3. Mathematicians use models to represent and make meaning of quantitative relationships; 4. The placement of a digit within a given number determines the value, or the unit that the digit represents. 	<p>ESSENTIAL QUESTIONS: <i>Students will explore & address these recurring questions:</i></p> <ol style="list-style-type: none"> A. How can I break a problem down into easier parts? B. How can counting patterns help me to understand large numbers? C. How can I use models and strategies help me to solve this problem? How do I know if it’s right? D. Is this an efficient way to solve this problem? 										

Grade 1 Math Curriculum

<p>thought of as a bundle of ten ones — called a "ten."</p> <p>CCSS.MATH.CONTENT.1.NBT.B.2.C 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).</p> <p>CCSS.MATH.CONTENT.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 $<$.</p> <p>CCSS.MATH.CONTENT.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.</p> <p>CCSS.MATH.CONTENT.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.</p> <p>CCSS.MATH.CONTENT.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.</p>	Acquisition:	
	<p><i>Students will know...</i></p> <ol style="list-style-type: none"> Using models help visualize numbers, relationships, and combinations Models allow for multiple mental pictures and representations of numbers The placement of digits in a number have specific meaning strategies and models for number combinations to 120 Place value is based on groups of ten <u>Vocabulary</u>: estimate, greater than, hundreds, less than, ones, tens, add, addit(ion), compare, greater than, less than, sum or total, difference, digit, subtract(ion), two-digit number, zero, count back/on, distance, hundred, length, paces, backward, before/after, beginning, count, end, forward, section, fives, two, combination, equal parts, quarter, fourth, dime, penny, reasonable 	<p><i>Students will be skilled at...</i></p> <ol style="list-style-type: none"> Grouping and counting by tens and ones Grouping tens into hundreds Using models, sketches and numbers to add and subtract within 100 Count forward and backward by 1s, 2s, 5s, and 10s from a variety of starting points Read and write numbers to 120 Add and subtract 1-digit numbers to and from 2-digit numbers Compare quantities to 120