

Unit 1 - Launching Addition and Subtraction Patterns

Overview

Unit 1 focuses on patterns in addition and subtraction facts, the pattern of adding 10s, and problem solving. The first lessons set the tone for the math workshop and establish expectations for working cooperatively on learning tasks. Students revisit the addition and subtraction strategies for facts to 20, which they learned in second grade. Later in the unit, the students apply the addition and subtraction strategies they have learned to add and subtract multi-digit numbers efficiently on the open number line. They also practice place value splitting with addition.

21st Century Capacities: Collective Intelligence, Analyzing

Stage 1 - Desired Results

<p>ESTABLISHED GOALS/ STANDARDS</p> <p>MP 3 Construct viable arguments and Critique the reasoning of others. MP 7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.</p> <p>3.OA.D.9 Identify patterns among basic addition facts and subtraction facts</p> <p>3.OA.D.8 Write equations with a letter standing for the unknown quantity to represent one-step story problems</p> <p>3.OA Determine whether two expressions are equal</p> <p>3.NBT.2 Use strategies based on place value, properties of operations, or the relationship between addition and</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center; background-color: #D3D3D3; padding: 5px;">Transfer:</td> </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. Represent and interpret patterns in numbers (analyzing). 2. Demonstrate fluency with math facts, computation and concepts (addition and subtraction). 3. Work cooperatively to employ learning strategies effectively (Collective Intelligence) </td> </tr> <tr> <td colspan="2" style="text-align: center; background-color: #D3D3D3; padding: 5px;">Meaning:</td> </tr> <tr> <td style="width: 50%; padding: 5px;"> <p>UNDERSTANDINGS: <i>Students will understand that:</i></p> <ol style="list-style-type: none"> 1. A whole can be broken into smaller parts or parts can be put together to make a whole 2. Tools and visual models help us to problem solve and explain our thinking 3. Strategies help us to recognize relationships between numbers to develop fact fluency 4. Addition and subtraction complement each other 5. We can work respectfully and responsibly with others to achieve a goal </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 do addition and subtraction relate to one another? B. How can I use tools to develop strategies to add and subtract? C. What pattern(s) do I see in the numbers or how is this problem like another we have solved? D. What is the best way to show my thinking? E. How do I work respectfully and responsibly with my classmates to solve a math 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. Represent and interpret patterns in numbers (analyzing). 2. Demonstrate fluency with math facts, computation and concepts (addition and subtraction). 3. Work cooperatively to employ learning strategies effectively (Collective Intelligence) 		Meaning:		<p>UNDERSTANDINGS: <i>Students will understand that:</i></p> <ol style="list-style-type: none"> 1. A whole can be broken into smaller parts or parts can be put together to make a whole 2. Tools and visual models help us to problem solve and explain our thinking 3. Strategies help us to recognize relationships between numbers to develop fact fluency 4. Addition and subtraction complement each other 5. We can work respectfully and responsibly with others to achieve a goal 	<p>ESSENTIAL QUESTIONS: <i>Students will explore & address these recurring questions:</i></p> <ol style="list-style-type: none"> A. How do addition and subtraction relate to one another? B. How can I use tools to develop strategies to add and subtract? C. What pattern(s) do I see in the numbers or how is this problem like another we have solved? D. What is the best way to show my thinking? E. How do I work respectfully and responsibly with my classmates to solve a math problem?
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Grade 3 Math Curriculum

subtraction to add fluently with sums to 1,000	Acquisition:	
	<p><i>Students will know...</i></p> <ol style="list-style-type: none"> 1. Number combinations to 20 fluently 2. An open number line allows us to add and subtract flexibly and visually 3. Patterns exist among addition problems 4. Problems can be approached from a range of perspectives 5. Numbers can be manipulated in a variety of ways 6. <u>Vocabulary</u>: difference, sum, commutative property of addition, associative property of addition, friendly number 	<p><i>Students will be skilled at...</i></p> <ol style="list-style-type: none"> 1. Adding and subtracting with sums and minuends to 20 using mental strategies 2. Recalling sums of two 1-digit numbers from memory 3. Explaining patterns among basic addition and subtraction facts 4. Using counting on, place value splitting and keeping one addend whole strategies for double-digit addition 5. Solving subtraction problems involving situations of taking from, taking apart and comparing with unknowns in all positions 6. Solving one-step addition and subtraction story problems