

Unit E - The Problem with Penguins

Overview

In this unit, first graders will continue to develop fluency with addition and subtraction within 10 and use strategies within 20. They use tools to model, solve, and create story problems of all types. Through careful analysis, they will begin to recognize patterns within problem types within an engaging context of penguins.

21st Century Capacities: Analyze, Imagining

Stage 1 - Desired Results

<p>ESTABLISHED GOALS/ STANDARDS</p> <p>MP3 Construct viable arguments and critique the reasoning of others. MP1 Make sense of problems and persevere in solving them.</p> <p>CCSS.MATH.CONTENT.1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.¹</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</p>	Transfer:		
	<p><i>Students will be able to independently use their learning in new situations to...</i></p> <ol style="list-style-type: none"> 1. Identify and apply strategies within simple addition and subtraction fact problems. (Analyze) 2. Create addition and subtraction story problems.(Imagining) 		
	Meaning:		
	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top; 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 represent given information in order to problem solve; 3. strategies help us to recognize relationships between numbers to develop fact fluency . </td> <td style="width: 50%; vertical-align: top; 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 do I figure out what information I need in order to write an equation and solve a problem? C. What tools do we have in our “tool box” in order to solve problems? D. Does my answer make sense and how can I explain my answer to someone else? </td> </tr> </table>	<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 represent given information in order to problem solve; 3. strategies help us to recognize relationships between numbers to develop fact fluency . 	<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 do I figure out what information I need in order to write an equation and solve a problem? C. What tools do we have in our “tool box” in order to solve problems? D. Does my answer make sense and how can I explain my answer to someone else?
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Grade 1 Math Curriculum

	Acquisition:	
	<i>Students will know...</i>	<i>Students will be skilled at...</i>
<p>with a symbol for the unknown number to represent the problem.</p> <p>CCSS.MATH.CONTENT.1.OA.B.4 Understand subtraction as an unknown-addend problem. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); 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 $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).</p> <p>CCSS.MATH.CONTENT.1.OA.D.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$.</p> <p>CCSS.MATH.CONTENT.1.OA.D.8 Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.</p>	<ol style="list-style-type: none"> 1. Addition and subtraction complement each other 2. Fact strategies and models for number combinations to 20. 3. How to use strategies to solve story problem contexts to 20. 4. Using models such as the ten frame and number rack to help visualize numbers, relationships, and combinations 5. Models allow for multiple mental pictures and representations of numbers 6. The placement of digits in a number have specific meaning 7. Vocabulary: add(ition), add nine fact, add ten fact, combination, count on, difference, (double) ten-frame, double fact, near double fact, equal, equation, fact family, join, make ten fact, missing addend, part, separate, story problem, strategy, subtract(ion), sum, take away, unknown, whole 	<ol style="list-style-type: none"> 1. Recalling addition and subtraction facts to 10 2. Using combinations of 10, add ten, add nine and doubles strategies to add to 20 3. Using taking away, finding the difference, and using addition facts to help solve subtraction fact strategies to subtract to 20 4. Writing and solve equations that involve unknowns in all positions 5. Determining whether addition and subtraction equations are true or false 6. Solving result unknown, change unknown and start unknown addition and subtraction story problems 7. Solving part-part-whole and comparison situation story problems 8. Writing fact family equations 9. Ordering two digit numbers 10. Using the inequality sign to compare numbers