

Grade K Mathematics – Unit 6: Problem Solving

Phoenixville Area School District

Stage 1 Desired Results		
<p>PA Core Standards:</p> <p>CC.2.1.K.A.1 Know number names and write and recite the count sequence.</p> <p>CC.2.1.K.A.2 Apply one-to-one correspondence to count the number of objects.</p> <p>CC.2.1.K.A.3 Apply the concept of magnitude to compare numbers and quantities.</p> <p>CC.2.4.K.A.4 Classify objects and count the number of objects in each category.</p> <p>CC.2.1.K.B.1 Use place value to compose and decompose numbers within 19.</p> <p>CC.2.2.K.A.1 Extend the concepts of putting together and taking apart to add and subtract within 10.</p>	Transfer	
	<p>TRANSFER GOALS <i>Students will be able to independently use their learning to...</i></p> <ul style="list-style-type: none"> • <i>Number Sense:</i> Develop a sound foundation to demonstrate the value of numbers by describing their various representations, relationships, and patterns. • <i>Problem-Solving:</i> Persistently apply various problem-solving strategies and organized approaches to accurately understand and solve problems • <i>Mathematical Vocabulary:</i> Interpret mathematical vocabulary and apply proper terminology to engage in meaningful oral and written expression that communicates mathematical thinking, problem-solving methods, and rationale. 	
	Meaning	
	<p>UNDERSTANDINGS</p> <ul style="list-style-type: none"> • Mathematics is used to make informed decisions about problems in everyday life. • Mathematical ideas interconnect and build on one another to produce a coherent whole. • Mathematicians require perseverance and resilience when creating solutions. • Mathematicians think about reasonableness throughout the problem-solving process. • Mathematical situations and structures can be represented and analyzed using symbols to advance algebraic thinking. 	<p>ESSENTIAL QUESTIONS <i>Students will keep considering...</i></p> <ul style="list-style-type: none"> • What do effective problem solvers do, and what do they do when they get stuck? • What counts as an adequate solution? Does my answer make sense? • Have I represented the relationships between the quantities appropriately? • Does my abstract representation of these quantities make sense in context? • Have I sufficiently supported my answer and shown my work? • How do we use symbols to create mathematical meaning?

		<ul style="list-style-type: none"> What is the unknown? How do I find it?
Knowledge and Skills Acquisition		
KNOWLEDGE <i>Students will...</i> <ul style="list-style-type: none"> Understand addition as the joining of two sets. Understand the +, -, and = symbols. Use symbols and numerals to write number sentences. Represent addition stories with addition sentences. Understand simple subtraction. Represent subtraction stories with subtraction sentences. Compare two sets and show the number sentence to answer how many more. 	SKILLS <i>Students will be skilled at...</i> <ul style="list-style-type: none"> Explaining the concept of addition using a pictorial representation with numbers to 10. Writing an addition number sentence using symbols with numbers to 10. Explaining the concept of subtraction using a pictorial representation with numbers to 10. Writing an addition number sentence using symbols with numbers to 10. Comparing two sets of objects and show the number sentence to answer how many more. 	
VOCABULARY <ul style="list-style-type: none"> Plus Minus Equal 		

Stage 2 – Evidence

Code A/M/T	Evaluative Criteria	Assessment Evidence	
A/M/T Acquisition Meaning Making Transfer	<i>What criteria will be used in each assessment to evaluate attainment of the desired results?</i>	PERFORMANCE TASK(S) <i>Students will demonstrate understanding (meaning-making and transfer) through complex performance by...</i> Performance Task A: <i>Goal:</i> Your task is to record 4 different ways you could receive your shipment of cookies and candy. You must also show it 3 ways (with cubes, an equation and a picture.) <ul style="list-style-type: none"> <i>Role:</i> You are a child who ordered cookies and candy. <i>Audience:</i> You are a consumer. 	Differentiation Considerations: <ul style="list-style-type: none"> IEP/ 504 plans Small group instruction One-on-one conferring

		<ul style="list-style-type: none"> • <i>Situation:</i> You ordered candy and cookies. You have a total of 18 items. You have to show 4 different ways that you can receive these 18 items. You must also show it 3 ways (with cubes, an equation and a picture.) • <i>Success Criteria:</i> You will use the “Show it 4 Ways” worksheet to decompose the number 18. You must show it 4 different ways. You must also show it with counting cubes, an equation and a picture. Any correct combination that equals 18 (except $18+0$) is acceptable/correct. <p>Performance Task B:</p> <p><i>Goal:</i> You ordered 12 treats. You ordered 5 cookies. You will give the cookies you ordered to your neighbor. You can keep the candy you ordered. Your task is to show how many candy bars you ordered and represent it 3 ways (with cubes, an equation and a picture.)</p> <ul style="list-style-type: none"> • <i>Role:</i> You are a child who ordered cookies and candy. • <i>Audience:</i> Your neighbor. • <i>Situation:</i> You ordered 12 treats. You ordered 5 cookies. You will give the cookies you ordered to your neighbor. You can keep the candy you ordered. Your task is to show how many candy bars you ordered and represent it 3 ways (with cubes, an equation and a picture.) • <i>Success Criteria:</i> You will use the “Show it 3 Ways” worksheet to decompose the number 12. You must show it 3 different ways (with cubes, an equation and a picture.) 	<ul style="list-style-type: none"> • Vocabulary Posters • Individual goal setting • Audio and visual supports • Various questioning strategies • Strategic partnering • Flexible Math Groups • Extra Practice • Enrichment • Space for movement and breaks • Additional time as needed • Review directions • Restate information
<p>A/M/T</p> <p>Acquisition</p> <p>Meaning Making</p> <p>Transfer</p>	<p><i>What criteria will be used in each assessment to evaluate attainment of the desired results?</i></p>	<p>OTHER EVIDENCE</p> <ul style="list-style-type: none"> • Teacher created journal page questions: <ol style="list-style-type: none"> 1. Draw 5 cookies. Draw 9 lollipops. How many more lollipops do you have? 2. Draw 15 brownies. Draw 7 cookies. How many more cookies do you need to have the same amount of brownies? 	<p>Differentiation Considerations:</p> <ul style="list-style-type: none"> • IEP/ 504 plans • Small group instruction

			<ul style="list-style-type: none">• One-on-one conferring• Vocabulary Posters• Individual goal setting• Audio and visual supports• Various questioning strategies• Strategic partnering• Flexible Math Groups• Extra Practice• Enrichment• Space for movement and breaks• Additional time as needed• Review directions• Restate information
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