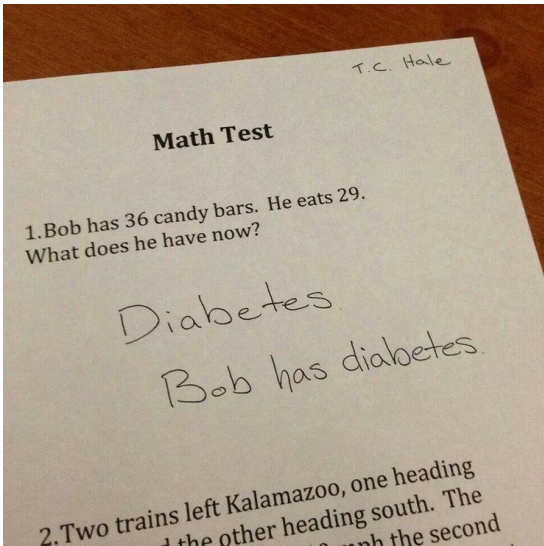


Word Problems

Grade: 6	Subject: Algebra
Materials: Graph Paper	Technology Needed: PowerPoint, Live Board
Instructional Strategies: <input type="checkbox"/> Direct instruction <input type="checkbox"/> Peer teaching/collaboration/ <input type="checkbox"/> Guided practice cooperative learning <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> Visuals/Graphic organizers <input type="checkbox"/> Learning Centers <input type="checkbox"/> PBL <input type="checkbox"/> Lecture <input type="checkbox"/> Discussion/Debate <input type="checkbox"/> Technology integration <input type="checkbox"/> Modeling <input type="checkbox"/> Other (list)	Guided Practices and Concrete Application: <input type="checkbox"/> Large group activity <input type="checkbox"/> Hands-on <input type="checkbox"/> Independent activity <input type="checkbox"/> Technology integration <input type="checkbox"/> Pairing/collaboration <input type="checkbox"/> Simulations/Scenarios <input type="checkbox"/> Other (list) Explain:
Standard(s) 7.EE.4 Use variables to represent quantities in a real world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p , q , and r are specific rational numbers. Solve equations of these forms fluently. HS.FIF.8* Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.	Differentiation Below Proficiency: Peer teaching/collaboration Above Proficiency: Peer teaching/collaboration to help them really master the concept Approaching/Emerging Proficiency: Collaboration Modalities/Learning Preferences: Guided notes and peer collaboration with partners they work well with.
Objective(s): I CAN <i>model</i> word problems in an expression I CAN <i>analyze</i> given information to draw out important information from problem solving. I CAN <i>create</i> a table and graph to show expression	
Bloom's Taxonomy Cognitive Level: Apply, Analyze, Synthesis	
Classroom Management- (grouping(s), movement/transitions, etc.) Pre-grouped partners Students will have 4 minutes at each station (20 second transition)	Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.) No phones Be respectful Go in order of stations. Stay at your station until times up, even if you finish early. Each person in group will fill out sheet!
Minutes	Procedures
5 minutes	Set-up/Prep: Set up 6-8 Stations around the room with different scenarios
	Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.) <div style="display: flex; align-items: flex-start;">  <div style="margin-left: 20px;"> <p>We will be working with word problems today. No need to fear! We are going to work in partners to help draw out important information so we can create an expression, table, and graph form it.</p> </div> </div>

Word Problems

10 min	<p>Explain: (concepts, procedures, vocabulary, etc.) Lets practice a few together.</p> <p>Problem: In order to join a gym, there is a \$20 free to open the membership and then \$5 dollars a month. Write and expression to express this date, create a table, then create a graph. (Answer: $20+5x$..Do we have negatives, nope! So lets create a few low x's so we can then graph it.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Input x</th> <th>Function $F(x)=20+5x$</th> <th>Output y</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>$20+5(1)$</td> <td>25</td> </tr> <tr> <td>2</td> <td>$20+5(2)$</td> <td>30</td> </tr> <tr> <td>3</td> <td>$20+5(3)$</td> <td>35</td> </tr> <tr> <td>4</td> <td>$20+5(4)$</td> <td>40</td> </tr> </tbody> </table> <p>Problem: I want to have an Amazon prime account, so I can go Christmas shopping with free shipping. It will cost me \$50 to start it up for the end of this year and then another \$50 for every year I keep my subscription starting in January. How much will it cost me at year 2020? This one is a bit complicated. What should we do first. Take a minute on your own to figure it out. Well we can have two equations. We can have $50x$ we include this year, 2017 or not. Lets include it and use just $50x$.. then create the table.</p> <p>LiveBoard: Have students participate. By seating chart, students already paired so each pair shares a phone. When on LiveBoard, different students assigned tasks by color. Each box in the function and output to be filled out by a pair of students.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Input x</th> <th>Function $F(x)=50x$</th> <th>Output y</th> </tr> </thead> <tbody> <tr> <td>2017 Year 1</td> <td>$50(1)$</td> <td>50</td> </tr> <tr> <td>2018 Year 2</td> <td>$50(2)$</td> <td>100</td> </tr> <tr> <td>2019 Year 3</td> <td>$50(3)$</td> <td>150</td> </tr> <tr> <td>2020 Year 4</td> <td>$50(4)$</td> <td>200</td> </tr> </tbody> </table> <p>Then we can make a chart graph.</p>		Input x	Function $F(x)=20+5x$	Output y	1	$20+5(1)$	25	2	$20+5(2)$	30	3	$20+5(3)$	35	4	$20+5(4)$	40	Input x	Function $F(x)=50x$	Output y	2017 Year 1	$50(1)$	50	2018 Year 2	$50(2)$	100	2019 Year 3	$50(3)$	150	2020 Year 4	$50(4)$	200
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25-30 min	<p>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)</p> <p>Students to explore in preassigned groups in which the groups choose their level to work on as a group. A minimum of 4 problems to be completed by end of the hour and if they finish early, they can continue to challenge themselves with the higher level thinking questions or they can create their own problem as an example that I could use on the test possibly.</p>																															
5 min	<p>Review (wrap up and transition to next activity): If you are finished you can hand it in!</p>																															
<p>Formative Assessment: (linked to objectives) Progress monitoring throughout lesson- clarifying questions, check- in strategies, etc. Responses during direct instruction Overhearing as they work together. Purposeful proximity while working and completing a partners. Consideration for Back-up Plan: If they finish early, they can continue to challenge themselves with the higher level thinking questions or they can create their own problem as an example that I could use on the test possibly</p>		<p>Summative Assessment (linked back to objectives) End of lesson: Takes everything we have learned and applies it to real world problems by taking information and expressing them in terms of $px+q$.</p> <p>If applicable- overall unit, chapter, concept, etc.: Takes everything we have learned and applies it to real world problems.</p>																														
<p>Reflection (What went well? What did the students learn? How do you know? What changes would you make?):</p>																																