

Evaluating Expressions 10/26-10/28

Grade: 6		Subject: Math	
Materials: Notebook, pencil/pen,		Technology Needed: Chromebook	
Instructional Strategies: <input type="checkbox"/> Direct instruction <input type="checkbox"/> Peer teaching/collaboration/cooperative learning <input type="checkbox"/> Guided practice <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"/> Imitation/Repeat/Mimic <input type="checkbox"/> Simulations/Scenarios <input type="checkbox"/> Other (list) Explain:	
Standard(s) 6.EE.1 Write and evaluate numerical expressions involving whole-number exponents. 6.EE.2(b, c): Write, read, and evaluate expressions in which letters stand for numbers. b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).		Differentiation Below Proficiency: Since I will be walking around the classroom during worktime, I will be able to notice when these students need extra help and provide them more one-on-one help. Above Proficiency: These students will likely finish the understanding squares assignment well before the rest of the class. Therefore, I will give them the next exponents worksheet to challenge them before I explain it to the rest of the class. Approaching/Emerging Proficiency: For these students, I will also be monitoring their progress throughout worktime to make sure they are understanding the content. Modalities/Learning Preferences: Auditory: I will be explaining the lesson verbally, which will help these students better understand the assignments. Visual: After we correct the homework assignments, I will ask if the students would like me to go over any problems up on the board, which will especially help the visual learners. I will also be showing the students how to complete the assignments by going through them on the front interactive whiteboard. Kinesthetic: The understanding squares activity will be more interactive and will help engage the kinesthetic learners.	
Objective(s) 1. Students will be able to demonstrate their understanding of exponents by completing two exponent charts. 2. Students will be able to apply their understanding of evaluating expressions by completing the formative assessment. 3. Students will be able to identify parts of an expression by completing a related worksheet.		Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.) Students will be expected to stay on task during the formative assessment and work quietly on their Chromebooks while they wait for everyone to finish the assessment.	
Bloom's Taxonomy Cognitive Level: Knowledge, Comprehension, Application		Classroom Management- (grouping(s), movement/transitions, etc.) Due to COVID, students remain in their assigned seats for class each day. However, since students are able to socially distance, they are provided 15-minute mask breaks during each class period.	
Minutes	Procedures		
20-30	Set-up/Prep: Decide on which questions to include for the formative assessment and then create the google form, decide on which problems to use for the summative assessment and decide whether it will be on paper or also as a google form (google form).		
5-10	Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.) To begin class, I will go over the answers to the two homework assignments that are due. As I go through them, I will check for student understanding and go through some of the problems on the board if any student is still confused. After, I have answered all questions and gone through problems if necessary, I will direct the students to the formative assessment that has been posted to google classroom.		
15-20	Explain: (concepts, procedures, vocabulary, etc.) I will explain that notes may not be used for the formative assessment, and when students finish the assessment, they may work on missing homework assignments or DreamBox lessons until everyone has finished. While everyone is taking the formative assessment, I will hand out the two sheets required for the next activity, face down on their desks so as to not distract them from the assessment. Once everyone has completed the assessment, I will explain the exponents review activity.		

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15-20	<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>The reason for the exponents review activity is that the students really struggled with the exponents quiz after the initial exponents lesson. It will act as a nice review and reference guide for understanding squares (exponent of 2). The exponents review sheet has the squares of 1-12, with columns for the number as an exponent, multiplication problem, the answer, and the visual for the square. I will go through the first two rows with the students and emphasize that they will be creating squares on their grid paper. I will then monitor the students as they work through the assignment.</p>
10-15	<p>After the students have worked productively on the activity for 15 minutes or so, I will hand out and explain the introducing exponents worksheet, which will help them better understand exponents other than 2. They will be filling out a chart that has various parts already completed.</p>
10-15	<p>Once the students have had ample time to start the introducing exponents sheet, I will hand out the last sheet that has guided notes and practice problems dealing with identifying parts of expressions. I will go through the guided notes with them before they start to work on the problems.</p>
5-10	<p>Review (wrap up and transition to next activity):</p> <p>Before the end of class, I will ask the students to pause what they are doing so that I can remind them that the three assignments they have been working on will be due the next day of class (which is a week from now). I will also remind them of the online assignments they have for the week (DreamBox). Before dismissal, I will ask the students what questions they still have about what they need to do for the next class period. If there are no questions, I will ask a student to explain what I am asking of them.</p>
<p>Formative Assessment: (linked to objectives) Progress monitoring throughout lesson- clarifying questions, check-in strategies, etc.</p> <p>In addition to monitoring student understanding throughout the lesson, there will be a formal formative assessment in the form of a google form that the students will complete on their Chromebooks. This formative assessment will act as a pretest for the content to be covered in the next few lessons.</p> <p>Consideration for Back-up Plan: If the formative assessment takes longer for some students than anticipated, I will adapt the second half of the lesson so that the students still receive the instruction they need to complete and properly understand the assignments.</p>	<p>Summative Assessment (linked back to objectives) End of lesson:</p> <p>Since standards-based grading is utilized, the summative assessment will only be for 6.EE.2c, which is mentioned above in the lesson. This assessment will be much shorter than the formative assessment and will be graded on a scale of 0.5-4. The summative will also include a level 4 question in addition to the level 2 and level 3 questions assessed in the formative.</p> <p>If applicable- overall unit, chapter, concept, etc.:</p>
<p>Reflection (What went well? What did the students learn? How do you know? What changes would you make?):</p> <p>After the first day of the lesson, we realized students were still struggling with visualizing squares, so we made sure that we emphasized that each number squared corresponds to a square on the grid paper (3^2 corresponds to a 3×3 square with 9 small squares inside). Going through up to 3^2 and emphasizing that $1^2=1 \times 1$, $2^2=2 \times 2$, and $3^2=3 \times 3$ helped the students better internalize what squaring a number really means. Since some students finished the first chart early, I had the rest of the students pause what they were doing so I could explain the next exponents chart. This allowed the more advanced students to stay engaged and challenged throughout the whole lesson. Overall, I think the combination of the two exponent charts really helped the students understand exponents.</p>	