

PEMDAS REVIEW JEOPARDY

Grade: 5th grade		Subject: Math- PEMDAS	
Materials: Whiteboard, markers, paper, and pencil		Technology Needed: Smartboard	
Instructional Strategies: <input type="checkbox"/> Direct instruction <input type="checkbox"/> Guided practice <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> Learning Centers <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Technology integration <input type="checkbox"/> Other (list) <input checked="" type="checkbox"/> Peer teaching/collaboration/cooperative learning <input checked="" type="checkbox"/> Visuals/Graphic organizers <input type="checkbox"/> PBL <input type="checkbox"/> Discussion/Debate <input type="checkbox"/> Modeling		Guided Practices and Concrete Application: <input checked="" type="checkbox"/> Large group activity <input type="checkbox"/> Independent activity <input checked="" type="checkbox"/> Pairing/collaboration <input type="checkbox"/> Simulations/Scenarios <input type="checkbox"/> Other (list) Explain: <input type="checkbox"/> Hands-on <input checked="" type="checkbox"/> Technology integration <input type="checkbox"/> Imitation/Repeat/Mimic	
Standard(s) 5.OA.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. 5.OA.2 Write simple expressions that record calculations with numbers. Interpret numerical expressions without evaluating them		Differentiation Below Proficiency: Have the student have a partner who helps them if needed, while they write the answer on the whiteboard. Above Proficiency: Have this student come up and demonstrate to the whole class how to so the problem is the large majority of the class is confused. Approaching/Emerging Proficiency: Use the whiteboard to show their work in order to solve the problem. Modalities/Learning Preferences: Visual, Tactile, and logical, and groups	
Objective(s) By the end of the lesson, the learner will be able to apply their knowledge about the order of operations (PEMDAS) to the given equations and be able to solve the problem, in the proper order, to get the right answer. Bloom's Taxonomy Cognitive Level: Application			
Classroom Management- (grouping(s), movement/transitions, etc.) Have the number on the table and number the students off to put them in groups. Have each group be at one table. Have all the students work through the math while the main, writer at that time puts their work on the whiteboard. Use the whiteboard to see the students work and to also minimize the number of students saying they know the answer		Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules, and expectations, etc.) The student will work together as a team and include all members.	
Minutes	Procedures		
5 min	Set-up/Prep: Pull up pre-made PEMDAS review game onto the smart board so that it is ready to go when needed. Have a white board on each table for each group, with dry erase marker and something to erase the answers.		
5 min	Engage: (opening activity/ anticipatory Set – access prior learning/stimulate interest /generate questions, etc.) <ul style="list-style-type: none"> • Ask the students to turn and talk to their neighbors about what the order of operations is. • Prompt them to look at the board to review PEMDAS. • Ask someone to share what PEMDAS is. • After reviewing what the order of operations is work through a problem on the board together as a class to help recall the rules of PEMDAS while solving equations. 		
10 min	Explain: (concepts, procedures, vocabulary, etc.) As a review of the material that the students learned about the order of operations and in preparation for the test play the review game Jeopardy. <ol style="list-style-type: none"> 1. Split the students up into teams based on their table groups. Move students if needed in order to have fair and productive groups. 2. Inform the students of the rules for this particular game. <ul style="list-style-type: none"> • Every team has a whiteboard and a dry erase marker. Students must show their work and write their answer and circle their answer on the dry erase board. 		

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	<ul style="list-style-type: none"> ○ Each student needs to take a turn writing on the whiteboard. Other teammates can work through the problems on scratch paper and help work through the problem together. ● The first group to raise the board up in the air, with the correct answer wins the points and gets to pick the next question. (One team can only pick twice in a row then it moves on to the next group clockwise.) ● When picking the questions, the students will pick a category and then a dollar price, all of which will be on the Smartboard. ● DAILY DOUBLE: the team who picks daily double will have the opportunity to request the amount of money that they want to win. The amount cannot be higher than the amount that the group has. At this time on only the team who picked the daily double can answer the question and receive the points. If they get the answer right they get all the points that they asked for. If they get the answer wrong then the team loses all the points that they requested. ● FINAL JEOPARDY: At the very end the groups have 30 seconds to agree on the amount that they want to bet. After this, the final jeopardy question will be read to the students. Here the students will have one minute to work their problem out. However, they will not show their answer until the time is up and they are called on. Finally, the students with the right answer will have to add their bet to their current total and the students with the right answer will have to subtract their bet number from their current total, to reveal the winner. <p>3. After this give the students time to ask any questions that they might have about the rules.</p> <p>4. Play the game!</p>
20 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>After the students have an understanding of what is expected from them for the game and they understand the rules it is time to play the game. The teacher will go through the PowerPoint, as the students direct. If there any problems that all, or majority of the groups, get wrong go over them on the board as a class.</p>
2 min	<p>Review (wrap up and transition to next activity):</p> <p>After the students have completed the game and added up all their points, review what the order of operations are. Afterwards, if there is the time the students can study for their Math test that they will have on Friday. Remind them that they will have to do problems like these on their math test. OR the students can do AR reading before the transition to the other class.</p>
<p>Formative Assessment: (linked to objectives) Progress monitoring throughout lesson- clarifying questions, check-in strategies, etc.</p> <p>The students will be checked throughout jeopardy with the work and answers that they show on the whiteboard.</p> <p>Consideration for Backup Plan:</p> <p>As a backup plan, the students can also be assessed through the review worksheet.</p>	<p>Summative Assessment (linked back to objectives) End of the lesson:</p> <p>The students will be assessed on their abilities to use PEMDAS in with the order of operations at the end of the unit with the unit test that they are reviewing for with this lesson.</p>
<p>Reflection (What went well? What did the students learn? How do you know? What changes would you make?):</p> <p>Things that went well: Overall, I was really impressed with how the students responded to this lesson. It was nice that I was able to spend two days, previous to have taught this lesson, working with the kids while they did their math review form their books. I know that being able to have them come and ask me questions about where they were struggling really helped me to prepare a lesson and a review game that triggered area where they needed</p>	

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some extra help. Also, the students really responded to the jeopardy game. It helped keep them focused and excited about what we were learning in class. It was fast enough to keep them involved but one to fast that they didn't know what was going on or get behind. Having the students take turns writing the answer. This was to make sure that everyone was participating in the activity and not just relying on other members of the team to do the work. In all, the lesson went well. It flowed through from beginning to end and the students were able to stay on task throughout the whole time.

Considerations for next time:

A few different areas that I would work on or change if I teach these again are a few simple changes. First, I would try and allow more time at the end for the students to be able to work out the final jeopardy problem. I feel like the students hurrying and therefore did not pay close attention to the questions. Also, maybe have a worksheet for the students to take home with all the problems so that they can work on the questions is they wanted to. Especially the ones that they got wrong or did not understand. Also, I would make sure to keep better track if the students were really taking turns with who was writing the answer on the board. Finally, I would have all the students write out the answer for the final jeopardy question/problem and tell them that that problem is their exit slip. The last question is a combination of all the different areas of PEMDAS and it is really important that the students are able to get this problem. Therefore, it is nice to see their work and have a better understanding of what the students needed before the test.

Final thoughts: I was really happy with how this lesson went and how the students responded to the lesson. The students were engaged throughout the lesson and they were good at participating and trying their hardest. By the end of the lesson, the students left the classroom not frustrated or upset about their math but with better understanding and excitement.