

Grade: 7th		Subject: Advanced Math 7th Grade	
Materials: notes		Technology Needed:	
Instructional Strategies: <input type="checkbox"/> Direct instruction <input type="checkbox"/> Peer teaching/collaboration/cooperative learning <input type="checkbox"/> Guided practice <input type="checkbox"/> Visuals/Graphic organizers <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> PBL <input type="checkbox"/> Learning Centers <input type="checkbox"/> Discussion/Debate <input type="checkbox"/> Lecture <input type="checkbox"/> Technology integration <input type="checkbox"/> Other (list) <input type="checkbox"/> Modeling		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): 7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients with an emphasis on writing equivalent expressions.		Differentiation Below Proficiency: Student struggles to multiply with variables or combining like terms or determining positive and negative signs. They also struggle with applying fractions or decimals. Provide extra guided practice while the class is working on examples during work time. Above Proficiency: Student is able to apply distributive property properly and can combine like terms and determine positive and negative signs. They are able to apply distributive property with fractions and decimals. Student can work on additional problems or help their classmates around them that are confused. Approaching/Emerging Proficiency: Student can apply the distributive property properly most of the time. Student may struggle with determining positive and negative signs when there are multiple signs. They may also struggle with combining like terms when there are multiple variables. They may also struggle with applying to fractions or decimals. Have student work with a partner in class to continue approaching proficiency. Modalities/Learning Preferences: visual, hands on, repetition	
Objective(s): The learner will be able to explain how to apply the Distributive property and use the Distributive Property to simplify algebraic expressions including fractions and decimals by combining like terms and determining positive and negative signs. Bloom's Taxonomy Cognitive Level: apply, analyze			
Classroom Management- (grouping(s), movement/transitions, etc.): Students will be seated in their assigned seats and collaborate with their partner if they wish during examples. Students will be silent during pre and post quiz for distributive property.		Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.) Students will be engaged in taking notes and answering/asking questions.	
Minutes	Procedures		
	Set-up/Prep: prepare notes and examples for in class		
10	Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.) Have students recall what they have learned so far about algebraic expressions and linear expressions. Talk about like terms, adding and subtracting linear expressions, and simplest form (5 min). Give students a short quiz asking them to put a linear expression into simplest form (5 min).		
15	Explain: (concepts, procedures, vocabulary, etc.) After all the students have finished their quiz explain how to use the distributive property to simplify the linear expression from the quiz. Then have students write down		

	<p>the distributive property in their notes and explain what it means and model how to apply it to a linear expression.</p> <p>Quiz Problem: $4(x+3) = (x+3) + (x+3) + (x+3) + (x+3) = 4x+12$</p> <p>Distributive Property: Multiply the number outside the parentheses by every term inside the parentheses.</p> <p>Example:</p> $6(y+4) = 6y + 24$
15	<p>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions) Have students practice applying the distributive property to linear expressions using examples and guided practice. Including linear expressions with fractions and decimals to reinforce what they learned last chapter working with rational numbers.</p> <p>Examples: $-5(3m-4) = -15m + 20$ $\frac{2}{5}(6-5j) = 2\frac{2}{5} - 2j$ $4.2(3s+6) = 12.6s + 25.2$</p> $5(x-4) - 2x + 8 = 3x - 12$ $\frac{-3}{4}(5v - 12) + 2(8 - \frac{1}{4}v) = -4\frac{1}{4}v + 25$
5	<p>Review (wrap up and transition to next activity): Give students an exit ticket asking them to state in their own words what the distributive property says and to simplify a linear expression using the distributive property.</p>
<p>Formative Assessment: (linked to objectives) Progress monitoring throughout lesson- clarifying questions, check- in strategies, etc. Walking around room while the students are practicing examples. Checking for understanding of applying distributive property and combining like terms with positive and negative signs. Consideration for Back-up Plan: If students are not ready to learn the distributive property, continue to practice adding and subtracting linear expressions. Focus on determining positive and negative signs and combining like terms. If necessary, students can go onto google classroom and watch a video or work on practice problems.</p>	<p>Summative Assessment (linked back to objectives) End of lesson: Students will be assessed based on their responses and work shown on the exit ticket.</p> <p>If applicable- overall unit, chapter, concept, etc.: Summative exam at end of chapter.</p>
<p>Reflection (What went well? What did the students learn? How do you know? What changes would you make?): Overall, I think the lesson went really well. Most of the students seemed to have understood how to apply the distributive property; I didn't realize that they had been introduced to it in 6th grade. One thing I would do differently if I were to teach this lesson again, I would emphasize that by applying the distributive property we are simplifying the expression because it makes the parentheses go away. I also would expand to show exactly what that factor multiple outside the parentheses is doing in the expression, for example: $3(x+2) = (x+2) + (x+2) + (x+2)$, which</p>	

means we have $x + 3$ being added 3 times. I think this would help the students that did remember how to apply the distributive property to understand what was happening in the expression so that they could still simplify the expression even if they didn't use the distributive property. I think this also would have helped the students on the exit ticket as well because a lot of them knew that it got rid of parentheses, but no one mentioned that it was a way of simplifying.

Name: _____

Distributive Property Pre-Test

Directions: Using the information you have already learned about linear expressions, simplify the following expression.

$$4(x+3) - 3x$$

.....

Name: _____

Exit Ticket

In your own words, say what the distributive property is and what it is used for.

Simplify the following expression.

$$-6(n-5) + 4n$$