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Grade Level/Subject: Algebra

Topic: Writing Algebraic Expressions

Objectives (P.A.S.S.): Standard 1.1, 2.8.b

Introduction: This lesson helps students learn how to translate verbal models into algebraic expressions by doing number tricks.

Instructional process: Be sure the students understand the directions and that they always make a conjecture after working through their numbers before writing their algebraic expressions.

Closure: Closure should begin by making sure everyone has the same simplified expression at the end and make sure everyone understands that it is the same for solving story problems.

Assessment: Assessment would include checking the simplified expressions. Then the original tricks should be checked. Teachers could distribute the new tricks and have other students check the solutions.

Modifications/Accommodations: Modifications could include working in groups.

Reflection: This was a fun way for students to learn how to write expressions and see how algebraic expressions and verbals models can be used for fun.

NUMBER TRICKS

In the column titled "your number" write the results of each step of the number trick listed on the left. Once other solutions are shown by your classmates, you may do the other two solutions in the two columns titled "Another Number". Analyze these three solutions, and make a conjecture to what you think the final result of the number trick will always be. Finally, in the fourth column "Algebraic Expression", write the algebraic expression that represents the cumulative steps of the number trick. On the second to last line of this column should be the complete expression with the simplified version on the final line.

Trick #1	Your Number	Another Number	Another Number	Algebraic Expression
Pick a number	_____	_____	_____	_____
Multiply by 2	_____	_____	_____	_____
Add 3	_____	_____	_____	_____
Subtract twice the original number	_____	_____	_____	_____
COMMON RESULT:	_____	_____	_____	_____
Trick #2	Your Number	Another Number	Another Number	Algebraic Expression
Pick a number	_____	_____	_____	_____
Add 4	_____	_____	_____	_____
Multiply by 2	_____	_____	_____	_____
Subtract 7	_____	_____	_____	_____
Subtract twice the original number	_____	_____	_____	_____
COMMON RESULT:	_____	_____	_____	_____

Trick #3	Your Number	Another Number	Another Number	Algebraic Expression
Pick a number	_____	_____	_____	_____
Add 2	_____	_____	_____	_____
Multiply by 3	_____	_____	_____	_____
Subtract 6	_____	_____	_____	_____
Subtract twice the original number	_____	_____	_____	_____
COMMON RESULT:	_____	_____	_____	_____

Trick #4	Your Number	Another Number	Another Number	Algebraic Expression
Pick a number	_____	_____	_____	_____
Add 5	_____	_____	_____	_____
Multiply by 2	_____	_____	_____	_____
Subtract 9	_____	_____	_____	_____
Subtract the original number	_____	_____	_____	_____
COMMON RESULT:	_____	_____	_____	_____

ASSIGNMENT

Create a number trick similar to those shown above. The trick must be unique. Demonstrate the solution with three different numbers, and then show the algebraic expression that represents each step of the number trick. Finally, write the simplified expression that represents the result of each trick. The higher the degree of difficulty, the higher the grade!