Name: Paula Wood

Grade Level: Algebra 1

Topic: Translating Words into Mathematical Symbols

Class Time Needed: 1 day

A. Objective

Students will translate words into mathematical symbols (PASS 1.1).

B. Materials

Math Curse by Jon Scieszka and Lane Smith
Student Worksheet

C. Resources

Algebra I Concepts and Skills, McDougall Littell,
ISBN: 978-0-618-37421-2

D. Instruction

a. Read Math Curse out loud to the class.
b. Write expressions and/or equations to match the situations given in the book using variables. For example: Using page 4 (the one on shirts) we wrote both expressions and an equation
   - → $w + b + b + b + s + s + s + u$
   - → $w + b + b + b + s + s + s + u = 8$
c. Write written expressions, equations, and inequalities using numbers, variables, etc.

E. Assessment:

a. Student worksheet

F. Modifications

a. The written problems can be made more difficult or easier depending on the ability of the students.
b. For those students with reading difficulties, the word problems, expressions, etc. are (or could be) read aloud.

G. Reflection

The students were anxious to listen to Math Curse. None of the students were familiar with the book which made reading it more fun for me. They were very attentive and seemed to enjoy the book even though it was just a "children's" book.

When began our way back through the book writing expressions, most of the students were engaged and actively taking a part in what we were doing. I would venture further saying I think they were actually enjoying doing math in this way. I was going to skip writing the section that referred to the quadratic formula, but my students ask to please do that section because they wanted to see how it would look. I was excited that they were that involved in what we were doing and wanted more information.

Next year I will repeat this lesson as is.

Student Worksheet

Translating Words into Mathematical Symbols

Write the phrase as a variable expression.

1. 11 more than a number
2. A number decreased by 10
3. The product of 9 and a number
4. 10 times a number
5. A number multiplied by 3
6. One fourth of a number
7. The quotient of a number and 6
8. 7 divided by a number

Write the sentence as an equation or an inequality.

9. The product of 5 and a number x is 25.
10. 10 times a number x is greater than or equal to 50.
11. The difference between 13 and a number is 7.
12. A number increased by 2 is 4.
13. The product of 2 and a number is 4.
14. A number decreased by 4 is 2.
15. A number divided by 4 is 2
16. The sum of 20 and a number is 30.
17. A number increased by 10 is greater than or equal to 44.
18. 35 is less than the difference of 21 and a number.

19. The quotient of 49 and a number is 7.

20. 28 decreased by a number is 18.

Translate and solve the real-life problems.

21. You make a long distance telephone call. The rate is $.10 for each minute. The total cost of the call is $5.00. How long was the call? Check to see if your solution is reasonable.

22. The area of a rectangle is less than or equal to 50 square meters. The length of the rectangle is three times the width of the rectangle. Write an inequality for the area using the dimensions given.

23. You want to go to an amusement park. The distance between your house and the amusement park is 110 miles. Your rate of travel is 55 miles per hour. Use the formula d = rt to write an equation. Use mental math to solve the equation for the time you spend traveling.

24. You want to hire a live band for a school dance. You have $175 in your budget. The live band charges $75 per hour and each student pays $2 admission. If the band is to play for 3 hours, how much extra money do you need to raise?