Turning the Tables: A Guide to Devising Your Own Story Problems
4th, 5th, or 6th Grade
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Benchmark:
(4th)　Math SLC 3: A.) Chooses appropriate problem-solving strategies. B.) Represents problem-solving situations using appropriate pictures, graphs, number phrases, mathematical symbols, and words.
(4th)　Math SLC 4: Explains, orally and in writing, the information given in a problem and determines missing, needed, and irrelevant information.
(4th)　Math SLC 5: Justifies whether a solution is correct using illustrations, models, and/or words.

Objectives:
　　　　This lesson is meant to:
- Strengthen students' ability to decipher and organize the contents of word problems
- Improve students' mathematical vocabulary
- Allow students' to apply mathematical concepts to a situational setting

This lesson can be used as an extension for any unit dealing with story problems.
It has been found most useful in a small group setting (preferably a group size of 2– 8).

Pretest:
　　　　As a pretest, quiz students over the necessary / extraneous parts of a story problem. Give an example story problem, AND instead of (or in addition to) having students solve the problem, have them decipher the key words and what they mean as well as state (most importantly) what the question itself is asking them to do.

Procedure:
　　　　The main class portion will deal with each student setting up his or her own story problem.　Start by reiterating the main pieces of a story problem:
1.) What kind of question would you put in your story problem?

2.) What operation do you wish to use? (+, -,×, ÷)
　　　　Note: Stress simplicity. Start the students thinking about how to form a one- step problem before letting them combine operations in their story problem.
　　　　Example: (combining with #1) "How many fish did Jeff catch <u>all together</u>?"
　　　　This indicates that the problem solver will either add or multiply.

3.) What type of numbers will you use? What units will you use with your numbers?

Example: "Jeff caught **3 fish** today <u>and</u> **4 fish** yesterday."
The numbers used are 3 and 4. The answer to the problem should have the label "fish." Also, this sentence should also give the problem solver the clue that they are going to add.

4.) Make sure the base problem is set up correctly / makes sense before allowing students to proceed to the next step. Have them solve the problem they have just devised.

5.) Add the details of the problem. (Names, Setting, actions of the main subject, etc.)

Now have them look over their word problem. Does it make sense?

<u>Target Model</u>:
-There are several parts to a story problem:
    -The kind of question
    -The operation used
    -The number and units used
    -The details of the problem

<u>Posttest:</u>
Have the students trade with another student in the class, solve the problem and explain the route they used to get to the answer. (The explanation of how they solved it should be similar to proficiency style.)