Lesson Plan

201

Name: [redacted] **Course:** Focus Math **Grade:** 8

Unit: Problem Solving

Big Idea: Learning to solve problems in mathematics involves collecting information from the problem, following a problem solving plan, and identifying and using problem solving strategies.

Subconcept: Mathematical problems contain important clues that can help in solving them.

Literacy Strategy(s): K-N-W-S, Reflection journal entry

Lesson: K-N-W-S Chart **Date Taught:** September 18, 2008

Learning Objective(s):

- Students will be able to identify necessary information in a word problem that will help to solve the problem.
- Students will be able to identify unnecessary information in a word problem that will not help to solve the problem.

Idaho Standards (or National Standards if no Idaho Standards exist):

8.M.1.1.6 – Recognize pertinent information for problem solving.

Detailed Description of Lesson:

1. Hand out worksheet of word problems.
2. As a class, read through the problems and discuss any previous knowledge students may have about the problem situation.
3. Hand out K-N-W-S chart and discuss the sections.
4. Fill in chart together for first few problems.
5. In table groups have students work through a few more problems.
6. Share charts with rest of class – compare results.
7. Have students work individually on a couple more of the problems and share results with class.
8. Assign the rest of the problems for an individual assignment.
9. Regroup, share charts, and give feedback.
10. Have students do a reflection journal entry about this new method.

Handouts:

Word problems
K-N-W-S chart

Student Work:

I was able to include one copy of each student's KNWS chart. The first four questions were completed in table groups. The next four problems were completed individually.

K What facts do I **KNOW** from the information in the problem?	N What information do I **NOT** need?	W **WHAT** does the problem ask me to find out?	S What **STRATEGY**. operations, tools, will I use to solve the problem?	*Solve the problem. *Check the answer(Does it make sense?) *Remember to label the answer.

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1. Ms. Floop purchased a 21-pound turkey at $2.62 a pound, 5 pounds of potatoes for $2.89, and cranberries for $2.09. What was the cost of the turkey?	2. A roller coaster at Walt Disney World takes only two minutes and forty-seven seconds from launch to the end. If the average speed is twenty-five mph, approximately what is the length of the ride in feet?
3. The Orofino Middle School Band was preparing for a winter program. One song they were having trouble with was *Rockin' Horse Blues*. The song lasted 4.6 minutes. How many times could they practice the complete song in a 30 minute period assuming there was a total of 8 minutes allowed for non-playing time between performances of the song?	4. In celebration of National Fritters Day, the school cafeteria made two hundred fifty-two apple fritters and three hundred eighty-three banana fritters. The students ate two hundred twenty of the apple fritters and three hundred thirty-three of the banana fritters. What fraction of the apple fritters was eaten?
5. In preparation for the holiday season, Megan purchased a box of cards to send to her friends and family. There were 20 cards in the box and the box cost $7.55. She also needed to buy stamps. What was the price per card?	6. A submarine rose 59 meters to a depth of 162 meters. There were many sea creatures to see. What was its depth before rising?
7. It has been calculated that a mako shark travels as fast as 35.2 km/h before leaping out of the water. If it could maintain 1/2 this speed underwater for 6 hours, how far could it travel?	8. Brittany used a 12 in. x 9 in. baking pan for her cookies. Julia used a 14 in. x 7 in. baking pan for her cake. What is the difference in the perimeters of the two pans?

LIMSST Project Literacy Lesson Reflection Form

Name: [redacted] 201 **Date lesson was taught:** September 18, 2008

Lesson Title/Topic Areas: K-N-W-S Chart

Literacy Strategies Used:

(Please discuss what literacy strategies you embedded in this lesson. What were your goals in using these strategies?)

The literacy strategies that I used for this lesson was the K-N-W-S Chart. Many times students will look at a word problem and all they can think is that they have no clue where to start. My thoughts in using the chart was to help them realize that if you get rid of all the unnecessary information, the problem becomes a bit easier.

Student Response to the Lesson:

(Was the strategy effective? Were students able to read/write as needed in this lesson? What attitudes were displayed? How did specific students and/or the class do? How did the literacy strategy aid in developing student understanding of the topic? Cite specific evidence from the samples of student work)

This strategy was another success for the students! At first when we started the lesson they weren't really excited about it at all. The word problems were long and contained a lot of information that wasn't necessary for solving the problem. Once we started going through the problems and deciding if the information was important or not and then crossing out the unneeded parts they got more involved. When we had worked through about half of them, I asked the class how many of them would have tried to use some of the things we had crossed out in the problems. Over half said they would have because they didn't know you didn't have to use every number that is in a problem.

Lesson Reflection:

(What worked well with this lesson? What challenges did you encounter in this lesson? Would you change certain aspects of the lesson or the questions that you asked? How does this influence future lesson planning?)

This lesson was done with the same target class that dislikes any type of a word problem. At first when we started doing this lesson we were working our way across the chart in the order that is listed. Quickly the class realized that it was easier if we restated the question first, it would be easier to tell what was needed and what wasn't. I also decided that if the students actually crossed off the unnecessary sections of the problem, they could visually see it getting smaller and more workable. We have used this strategy since and every time there is a lot of success with it. In fact, when we were practicing for the DMA (Direct Mathematics Assessment) one of the students asked if they could cross off what they didn't need or information they had already used.

Relationship to Previous Instruction:

(Have you taught this lesson/topic prior to the LIMSST project? If so, how did your teaching of this lesson differ from what you taught before? How did students' reactions to this lesson differ?)

I had taught this strategy prior to LIMSST, but didn't have a neat chart for them to fill in as we went along. They would just write it on a piece of notebook paper. I have some of the same students from previous years because I moved up a few grade levels. They told me after using the chart that would I had tried to teach before made more sense now because they could "see it" now.