

Lesson Plan 2

Name: Kathy Dickerson Course: Math 8 Grade: 8

Unit: Describing and Extending Patterns

Big Idea: "Using vocabulary and expressions to describe arrangements of numbers."

Subconcept: " Use transition words to improve writing."

Literacy Strategy(s): Frayer and Pairs Check

Lesson: Using transition words to improve a written response Date Taught: 10/26-10/27

Learning Objective(s):

Students will be able to	Use facts to make a conjecture on the amount of pennies used to construct a ziggurat
Students will be able to	Use transition words to write a response to justify their conjecture.

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

8.M.1.3.5 Formulate conjectures and justify (short of formal proof) why they must be or seem to be true. (338.02.c)

Detailed Description of Lesson:

Day 1

1. Hand out a list of transition words and have a discussion on the words that best fit writing in the math classroom.
2. Assign a category to each team. Categories are :To Show Time, To Show Sequence, To compare, and To Show Position
3. Have the students write their words on corresponding colored index cards.
4. Have students put their words on the poster titled "*To be systematic when writing in math, use transition words.*"

Day 2

1. Hand out an envelope with their sentences, cut into strips and mixed up, from a previous writing and ask them to organize them in order. See attached
2. Have students share with their partner the sequence they put their sentences in.
3. Next hand out MY sentences, cut into strips and mixed up, and ask them to put them in order.
4. Once they have them glued down they are to continue the story until they reach a conclusion on how many pennies are in the Ziggurat.

TRANSITION WORDS

To Add:

and, again, and then, besides, equally important, finally, further, furthermore, nor, too, next, lastly, what's more, moreover, in addition, first (second, etc.)

To Compare:

whereas, but, yet, on the other hand, however, nevertheless, on the contrary, by comparison, where, compared to, up against, balanced against, vis a vis, but, although, conversely, meanwhile, after all, in contrast, although this may be true

To Prove:

because, for, since, for the same reason, obviously, evidently, furthermore, moreover, besides, indeed, in fact, in addition, in any case, that is

To Show Exception:

yet, still, however, nevertheless, in spite of, despite, of course, once in a while, sometimes

To Show Time:

immediately, thereafter, soon, after a few hours, finally, then, later, previously, formerly, first (second, etc.), next, and then

To Repeat:

in brief, as I have said, as I have noted, as has been noted

To Emphasize:

definitely, extremely, obviously, in fact, indeed, in any case, absolutely, positively, naturally, surprisingly, always, forever, perennially, eternally, never, emphatically, unquestionably, without a doubt, certainly, undeniably, without reservation

To Show Sequence:

first, second, third, etc. A, B, C, etc. next, then, following this, at this time, now, at this point, after, afterward, subsequently, finally, consequently, previously, before this, simultaneously, concurrently, thus, therefore, hence, next, and then, soon

To Give an Example:

for example, for instance, in this case, in another case, on this occasion, in this situation, take the case of, to demonstrate, to illustrate, as an illustration

To Summarize or Conclude:

in brief, on the whole, summing up, to conclude, in conclusion, as I have shown, as I have said, hence, therefore, accordingly, thus, as a result, consequently

Reordering a Paragraph to Make Sense

1. Directions: Place the statements in sequential order starting with the * . When you have glued all the sentences. *In order to make a conjecture about how many pennies were used to construct this Ziggurat, I would count the number of pennies in the bottom corner stack. There are 10 pennies in the stack.*

- You need to count how many stack of tens are on the bottom.
- Then I count the number of pennies there are in the second to last row.
- Then you need to take the amount of stacks there are by ten and do the same for the next row and the next row.
- You could estimate how many stacks of pennies there are and add them all up.
- I would count the number of pennies on one side then times it by four because there's 4 sides.
- If there are 10 in a stack, count how many stacks until you get to the top
- Then I would add all of the info and calculations together and have my answer.
- I would count how many there were and keep doing that as I go up the row.
- I would count how many layers there are.

2. Directions: Place the statements in sequential order starting with the * . When you have glued all the sentences. Finish the problem (there is a pattern.)

** In order to make a conjecture about how many pennies were used to construct this Ziggurat, I would count the number of pennies in the bottom corner stack. There are 10 pennies in the stack.*

- There are 10 pennies in the bottom corner stack.
- There are 27 stacks along the front row.
- I am estimating that there are 5 stacks where the stairs are.
- This makes a total of about 27 stacks of ten pennies in each row.
- There are 27 rows in the bottom layer.
- I would then multiply the 27 rows times the 27 stacks times the 10 pennies in one stack.
- This equals 7,290 pennies in the first layer.
- The second layer has 25 stacks x 25 rows x 10 pennies = 6250 pennies in the second layer.

LIMSST Project Literacy Lesson Reflection Form

Name: Kathy Dickerson

Date lesson was taught: 10/26-10/27

Lesson Title/Topic Areas:

Using transition words to write a response

Literacy Strategies Used:

Word Wall, Sentence Strips, Individual Write

Student Response to the Lesson:

The students recognized immediately how complicated it was to identify the order of the strips that they wrote originally. There was a lot of complaining. When they put the second strips together and continued the pattern they were very quiet and on task.

Lesson Reflection:

Using the Ziggurat was a lot of fun. We discussed visual cues and went back to the original lesson with the piles of pennies and how their conjectures change when they were able to see the entire stack. They had to visualize the Ziggurat in 3D and I actually used 1 inch blocks to help them visualize in 3D. Exploring and using transition words makes a huge difference in understanding what is written. For me it was an ah-ha moment. I have realized that it is not so much the general math vocabulary that confuses the students but the transition words and process words. I would say that in the past 2 years with LIMSST that this is the most important information I have learned about teaching math.

Relationship to Previous Instruction:

This lesson directly related to the group write. What happened in the group write changed the direction to the lesson above and hopefully will make a huge difference in the quality of the students written responses in the future.