

Solar Wind Speed: A Math Essay

Overview:

Students write a complete math essay and identify the transition words.

Objectives:

The student will:

- explain the thought process used in solving a math problem; and
- identify transition words within the essay.

Materials:

- Highlighters
- STUDENT WORKSHEET: “Solar Wind, a Math Essay”
- STUDENT WORKSHEET: “Speed of Solar Wind” (*from Speed of Solar Wind Lesson, Unit 7*)

Activity Procedure:

1. For this lesson students will explain how a math problem is solved. To do this, students will use the problem they previously solved on the STUDENT WORKSHEET: “Speed of Solar Wind” in the Speed of Solar Wind Lesson. Students should refer to the answers from that worksheet.
2. Distribute highlighters, the STUDENT WORKSHEET: “Solar Wind” and the STUDENT WORKSHEET: “Solar Wind, a Math Essay.”
3. Explain that a math essay is a description of a process. Students will write how they solved a math problem.
4. Transition words signal sequence and continuation of ideas. Guide students in listing possible transition words that signal sequence.
5. After writing their essay, ask students to highlight the transition words.

Answers to Student Questions:

1. *Answers will vary, here are some possible answers:*
Transition words that show sequence or order: first, second, third, then, after, last, before
Transition words that show that there are more ideas to come: also, and, first of all, another, in addition, furthermore
2. *Possible essay:*
I was asked to find out when the aurora may become visible assuming there was a solar flare today at 8:15 A.M. First, I had to know the speed of the solar wind. To figure this out, I looked on the www.spacweather.com website. This gave me a speed of XXX,XXX miles per second. Next, I divided the distance from Earth to the sun (149,894,300 km) by the solar wind speed to find out how many seconds it would take for the solar wind to reach Earth. Then, I converted the seconds into minutes and hours. I discovered that the solar wind would reach Earth in XXX seconds, XXX minutes, and XXX hours. Finally, I counted forward from the time the solar flare occurred (8:15 A.M.) to discover that the aurora would likely become visible at XX:XX.
3. *Possible transition words are underlined in the essay above.*

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Directions: Review the STUDENT WORKSHEET: “Speed of Solar Wind.” The information on the worksheet will be used to write a math essay that explains the process used to solve the math problem.

1. Before writing the essay, create a list of transition words. Transition words are very helpful for bringing ideas together. Because a math essay shows a process, use transition words that show the sequence, or order, of the ideas. Then list transition words that show a continuation of ideas. Use three or four transition words in the essay.

Transition words that show sequence or order to ideas:	Transition words that show that there are more ideas to come:
Example: first	Example: also

2. A math essay is a written explanation of how a math problem was solved. Explain each step used in solving the math problem on STUDENT WORKSHEET: “Speed of Solar Wind.”
 - A. Begin the essay by stating the math question that was asked.
 - B. Explain the steps taken to solve the problem. Remember to use words rather than mathematical symbols. Also, remember to use at least three transition words.
 - C. Make sure the concluding sentence answers the original question.

I was asked to find...

3. After completing the math essay, highlight the transition words used.