“Photochemical Smog Pollution and Its Mitigation Measures”: Part 1 (60 minutes)

Directions: Read the article on your own and then, working with a partner, read the article out loud taking turns. Once done, discuss question number 1. On your own sheet of paper, write the answer you’ve come up with. (Yes, you each need to write down the answer even if it’s exactly the same). Continue discussing the questions, formulating the best answer the two of you can come up with and writing your answers on your own piece of paper. Skip 5-6 lines in between each of your answers.

1. Using clues from the text what does the word “portmanteau” mean (Second paragraph first line)?
2. According to the text how are anthropogenic nitrogen oxides (NOx) formed? Are nitrogen oxides considered primary, secondary or photochemical smog according to the text?
3. How is ozone formed in the lower atmosphere? What is necessary for this to occur according to the text?
4. If ozone is formed lower in the atmosphere what are 3 human health effects and 2 effects on plants.
5. Where and why is photochemical smog an issue using at least 2 quotes from the text to justify your answer.
6. What are 3 ways to reduce photochemical smog according to the text and why will they work citing evidence from the text?
7. What is the tone of the author throughout the text? Cite three words that convey the tone of the author.
8. There are a number of typos and grammatical mistakes in the article. How do these influence your perception of the authors or the quality of the information they are presenting?

“Photochemical Smog Pollution and Its Mitigation Measures”: Part 2 (30 minutes)

combine two pairs of students to make groups of 4. (I personally call these “pods”. My students learn quickly that when I said, “pair up” I want groups of 2 and if I say “pods” I want groups of 4. I will also occasionally say, “clump up in 2, 3, or 4 which means I don’t really care how many, anything from partners to pods is fine”).

Have students pick/assign a group leader and a “task master”. The leader will read the questions and facilitate a group discussion about each of the questions in part 1. The “task master” simply notices when (not if) the talking has gotten off topic and mentions it to the group. They are NOT the boss, nor enforcement. Their job is to simply notice when the conversation has gotten off topic and mention it to the rest of the group. Students use a different color pen than they used in part 1 and add to their answers based on the discussion of the group.

“Photochemical Smog Pollution and Its Mitigation Measures”: Part 3 (10 minutes)

Assign 1 question to each of the pods. Using liquid chalk markers, the group answers their assigned question directly on the table. (I try to give each group a different color marker)

“Photochemical Smog Pollution and Its Mitigation Measures”: Part 4 (20 minutes)

Groups rotate around the tables, reading the answers that other groups have come up with, commenting or adding information directly on the table with their markers. After all groups have rotated through as many tables as possible before the bell rings, I go to each table and take a picture and then post the pictures on my website so that students can access the information later and add to the answers on their own papers.