THE CHEMISTRY CLOSE READ

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An English teacher, a chemistry teacher, and a librarian...
SOME KEY THOUGHTS:

- Intensive over analysis
- Access to ‘authentic reading’
- Bring the library to the students
- The reading flow
- The sweet spot of instruction
Purpose: to broaden students’ knowledge of the world

Kate’s English Class = Article of the Week

Jenelle’s Chemistry Class = The Chemistry Close Read
Students Making Connections
To the relevance of chemistry in society and in their lives by engaging in authentic text
WHAT DO STUDENTS READ?
Abstract

Hybrid micro/nanostructures and light-absorbing pigment of melanin are two key factors for the excellent antireflective properties of the butterfly wings of Ornithoptera goliath. In this work, femtosecond laser ablation of metals in an organic solvent (FLAMOS) was used to generate hybrid micro/nanostructured cross-linked ultrahigh/low spatial frequency laser-induced periodic surface structures (UHSFLs/LSFLs), which well mimic the antireflective architecture of Ornithoptera goliath. The simultaneously
WHAT HAPPENS WHILE THEY READ?
When Flint's water started smelling foul, tasting odd, turning orange, and the children drinking it started to develop nasty skin rashes, there was clearly something terribly wrong. But what? That was a mystery that only chemistry could solve.

By Adrian Dingle

It makes me think how even just the process of building a new pipeline to bring water from nearby Lake Huron meant that officials in the city of Flint needed to find a short-term solution, while the new pipeline was being built. They decided to use water from the local Flint River that would clean in water-treatment plants.

In April 2014, Flint switched over to the new pipeline. Later, in October 2014, the General Motors car plant in Flint announced that they would no longer use the water, because they feared it would cause corrosion within the factory.
Time for a Conversation
WHAT HAPPENS AFTER THEY READ?
Chemistry Close Read

Acidic Seas

2) The author of *Acidic Seas* by George Hale from the Source ChemMatters expresses how carbon dioxide is changing the oceans. This helped the readers know how to help the ocean.

3) I was reminded of the change people can have in the world by a simple act. While one person wrote this article, it ended up educating a lot more people and students on this large problem, which can lead to actions against the dying coral reefs.
This article advises about food dyes. This article was about food and the difference between naturally and artificially made food dyes.

In this article, I noticed how it never really said that the food dyes make the food more beneficial or nutritious in any way besides making it more appetizing. I wonder if as many processed foods bought today if they were really good for people's health.
Over the summer, the numbers were hard to keep track of. At first, a few dozen mysterious lung illnesses were reported, but by mid-October, the U.S. Centers for Disease Control and Prevention (CDC) said it was investigating about 1,500 cases, including 33 fatalities. The people affected are mostly in their late teens and early 20s and normally healthy. They reported flu-like symptoms, including vomiting, fatigue, followed by severe shortness of breath. Some of them ended up on ventilators for months. Health investigators determined that the common thread among these cases was vaping. Pinpointing what specifically causes the illnesses is difficult. Health investigators speculate that a number of factors might be involved, including product contamination, the use of THC (a cannabinoid from marijuana), and device modification. Investigators initially found that the oil vitamin E acetate was in many of the THC products that sick patients had vaped. But a follow-up study examining lung biopsies from some patients didn’t show signs of the oil. The spike in severe illnesses raised new alarms over e-cigarettes. But even before this summer, public health officials warned that vaping could have unforeseen long-term effects. E-cigarettes haven’t been used long enough, however, for doctors to know what those effects might be.
CHEMISTRY CLOSE READ: Vaping

NAME:

PERIOD:

Vaping: What You Need to Know

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GRADING ADVICE FROM AN ENGLISH TEACHER:

WORK IN STAGES

AT THE BEGINNING:

- Count the comments
- Scan for Richness
- Definition?
- Summary and Reflection?

WITH MORE EXPERIENCE

Focus on the richness of comments

FINALLY

Focus on the Summary and Reflection Statements
Scan the comments
Kate’s Words of Wisdom

“The grading should reflect the purpose”
THE IMPORTANCE OF COLLABORATION AND SHARING
Hi Mrs. Ball, it's [Redacted], Mr. Gripenstraw's student teacher from last school year. I am at a district training today and a chemistry close read you submitted was given to us. Still learning from you even miles away from Chico High.
Embracing Chemical Literacy

By Glenda Connelly

Literacy, Instructional Strategies

Ten years ago, I had a bad case of laryngitis that lasted several days. During those few days, I found myself amazed by what I discovered about teaching and learning while I was unable to teach as I normally would.

In my classroom, I often read aloud, paraphrase sections from a lab, or demonstrate new techniques when preparing students for an activity. An experienced English teacher once told me that this practice was good modeling for my students, and that when students read aloud to a class, they do not process what they are reading very well. The same teacher cited anxiety as the reason, except for very confident students.

During my days fighting laryngitis, in an effort to save my voice I had one of my best students read directions aloud. When he came to the written formula for calcium chloride, he spelled out "C-a-C-l-2", and then referred to water by spelling out "H-2-O."
The Importance of Teaching Literacy Strategies in High School Chemistry

By Stephanie O'Brien

Instructional Strategies, Literacy

Did you know that general chemistry introduces more terms and concepts than a first-year foreign language class? This fact, coupled with students’ inability to absorb the vast amount of information that is typically packed into course textbooks and lectures, accounts for why dropout, failure, and course repeat rates are above 30 percent at college institutions, and also place general chemistry on the “Killer-Course” list.1 These impacts are due in part to the lack of

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About the Author

Dr. Stephanie O'Brien received her B.S. in chemistry, M.A.T. in teaching chemistry, and Ph.D. in science education from Stony Brook University. She has taught all levels of chemistry, from inclusion to international Baccalaurate (IB) at Farmingdale High
THANK YOU!

KATE GINNO (THE ENGLISH TEACHER)
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