What’s in the February Newsletter from the TPS Journal?
See all TPS Journals at http://www.loc.gov/teachers/tps/quarterly/archive.html

Learning Activity – Elementary Level
Exploring the Scientific Method:
“Mr. Watson – Come Here – I Want To See You”
Students analyze key pages from the laboratory notebook of Alexander Graham Bell to discover the elements of the scientific method. Successful scientific investigation requires methodical, careful testing of hypotheses and records of results.

Learning Activity – Secondary Level
What do Scientists and Inventors think about?
Students will read and analyze selected notes and correspondence from an inventor. Working together, they will identify specific places in each document that reflect the scientific processes of systematic observation, collecting evidence, reasoning, developing hypotheses. Finally, students will speculate on what might have happened, and how a scientist would design the next phase.

UPCOMING EVENTS
February 18, 2013 – Teaching with Primary Sources and PA Common Core Standards Basic Online Skills Course
March 18, 2013 – Teaching with Primary Sources and PA Common Core Standards Advanced Online Skills Course

Ways to earn Act 48 hours in your classroom
Lesson Plan Field Testing
Oral History Projects
National History Day Preparation
Co-teaching with Primary Sources
Teacher Professional Development

LESSON PLAN OF THE MONTH
FROM CALIFORNIA UNIVERSITY OF PA

“The Mechanics of Flight: Man’s Imitation of Nature”
A Lesson Plan developed by Alicia Lowe

The activities in this lesson will enable students to list six categories of adaptations that contribute to avian flight, and briefly explain how birds’ bodies are capable of flight and how the Wrights’ glider attempts to mimic them.

Humans are always trying to re-create nature, from building fires, to making shelter, etc. One particular fascination has always been flight. In this activity, we will discover some early pioneers of flight and gain some insight about their feelings towards their work. By the end of the activity, your students will be able to explain to their classmates how an early “flying machine” mimicked birds’ bodies.

Grades 11-12, Biology/Anatomy

Phone: 724-938-6025 E-mail: berdar@calu.edu
http://www.calu.edu/business-community/teaching-primary-sources/
How do you use primary sources to teach science?
In my experience, primary source documents and visuals provide very rich learning opportunities for students’ discussion and appreciation of science and its relationship to the real world, both past and present. On study guides, I often pair primary source images with sample test questions for students to do “then and now” comparisons with regard to scientific principles, technology or materials. Using primary sources, whether films or journal excerpts, can help students understand that inventors like Thomas Edison were real people who made mistakes, and makes scientific achievement more real and attainable for students.

What advice do you have for teachers who have never tried teaching with primary sources?
I encourage all teachers to make a commitment to try what the Library of Congress has to offer online no matter what subject area they teach. You will be very surprised by what the Library’s website offers and how you can adapt these resources to any curriculum. When you teach using primary sources, you open an avenue of learning to students that will be at their fingertips for the rest of their lives.

See full article at http://www.loc.gov/teachers/tps/quarterly/science/spotlight.html

Get resources from the Teacher’s Page at the Library of Congress http://www.loc.gov/teachers/

TPS JOURNAL FEATURE ARTICLE

Primary Sources and Science
By Mark Newman and Carrie Copp

“The results were fantastic!” said high school physics teacher Casey Veatch after implementing a Library of Congress primary source into his science lesson. Middle school science teacher Rebecca Prince further explains. "Primary sources always create what I like to call the 'lean-in factor:' students sit up in their seats, lean forward on their desks, and engage in the discussions that revolve around the primary sources.”

Analyzing historical primary sources about science expands critical thinking and promotes student inquiry, just as it does in other disciplines. Students can learn about the history and application of various scientific discoveries through the use of primary sources. Using historical primary sources in science instruction also builds important skills, such as observation and inference, that are integral to experimentation and the scientific method. Primary sources can appeal to all learners. They promote interdisciplinary instruction and involve students in learning content as well as building skills.

In one example of how Prince has used Library of Congress primary sources as the basis for scientific inquiry, she gave her students Samuel Morse’s sketches as a model for building their own telegraphs. Prince used photographs to have students study the uses of the telegraph. "Then, as they became more adept at using primary sources to find information," Prince explained, "they studied Samuel Morse and his telegraph sketches." Having learned how to interpret primary sources in a meaningful way, Prince’s students made working telegraphs. The Morse sketches were an inspiration for their creativity.

See full article at http://www.loc.gov/teachers/tps/quarterly/science/article.html