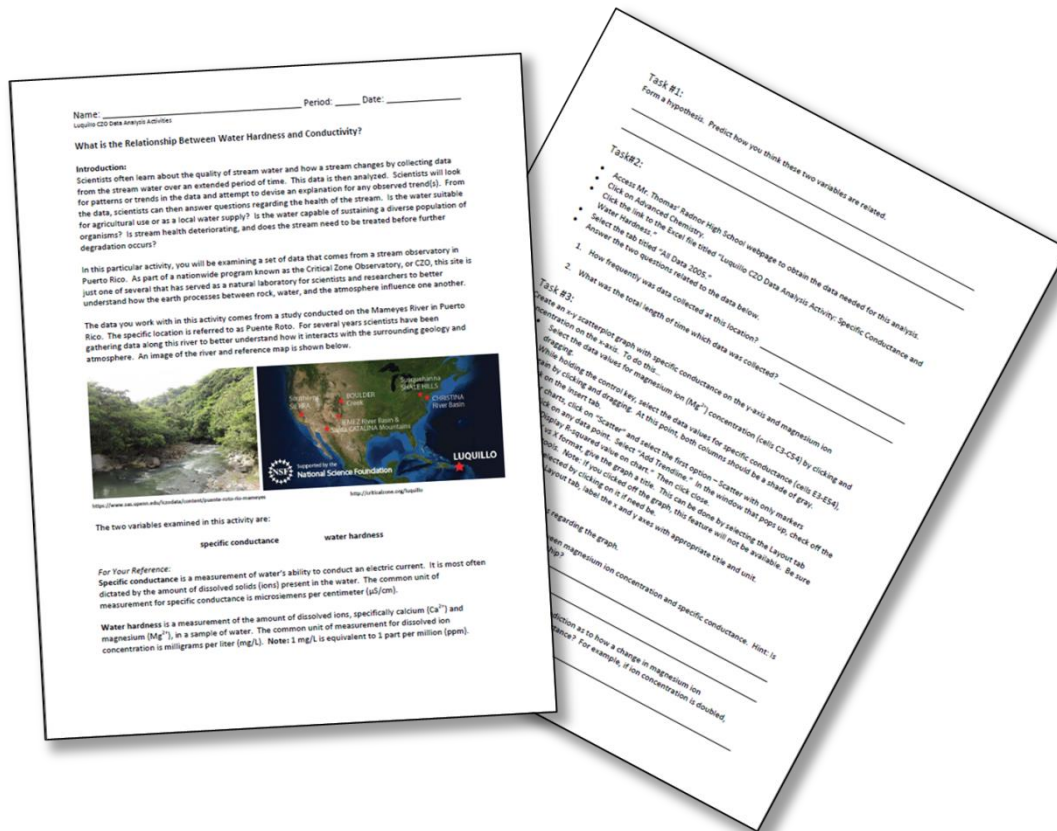




## “The relationship between water hardness and conductivity” High School Honors- and College Prep-Level Activities using LCZO Data

Through a partnership with Jane Horwitz at the Penn Arts & Sciences Science Outreach Initiative and two teachers in the Radnor and Lower Merion school districts, activities for high school students studying mathematics and environmental science were developed for Honors and College Prep high school students.



Radnor High School Chemistry/Earth Science teacher Jeffrey Thomas implemented the activity during the 2012-13 school year. The content focus was on the relationship between water hardness and conductivity, using a data set collected from the LCZO website. In his introduction to the lesson, Jeff described the work being done at the LCZO and showed video footage from the CZO website. The students then went to the school's computer laboratory, where they worked in small groups to complete the assignment. Students downloaded data, performed mathematical and statistical analyses, and answered a set of questions. Lessons were formulated based on state and/or national science education standards, making them appropriate for use by a wide audience of teachers. The lesson-developers were graduates of the Penn Science Teacher Institute Master of Integrated Science Education Program or Master of Chemistry Education Program who are excellent, experienced teachers of Earth and Environmental Science. Jane is currently working with the PA Earth Science Teachers Association this summer to further bring the work being done at the LCZO to the attention of secondary students and teachers.