Engaging REU students in understanding science-made versus science-in-the-making with “micro-inquiries”

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The CCAR REU program actively recruits students from community colleges and other institutions with limited research opportunities. As a result, these students have misconceptions about the nature of science and the research process. Like most REU programs, we have one week to train students before they work with REU mentors. During this week, CCAR REU students engage in a “micro-inquiry” project to help bridge the gap between incoming notions about science and being ready to conduct research.

THE PROBLEM
How to introduce novice science students to the research process?

Day 1: Week 1
Incoming REU student science experiences are based on content-driven science learning

End of Program
Student develop skills to conduct scientific research, make, defend and communicate claims.

Day 1 afternoon: Introduction to project and instrument (nephelometer). Each student develops research question based on introduction to atmospheric science lectures and evaluates potential variables. Students present and defend research proposals to group, teams form. Teams conduct literature review overnight.

Day 2 morning: Students design data collection protocols and collect data, afternoon: data analysis and interpretation

Day 3: morning: continue data analysis and oral presentation preparation, afternoon: oral presentation of claims

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