

Abstract Submitted  
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**Teaching Students About the Process of Science: Using Google to Collect and Analyze Student Lab Measurements** KRISTEN LARSON, JIM STEWART, Western Washington University — The process of science necessarily includes critical analysis of uncertainty in repeated measurements. We demonstrate how the measurements that students make can be collected and analyzed in real time with Google Docs. Showing students how their measurements compare to the rest of the class provides a valuable opportunity to teach about uncertainty and the process of science. Student work can be compiled by the instructor after the fact, but Google makes it easy for students to submit their measurements via a web form and instantly see how their measurements fit with the rest of the class. Analysis, including histograms, fits, and virtually anything that can be done with a spreadsheet, is updated automatically and available to students. We show how the tools can be readily customized and implemented seamlessly with two examples from large undergraduate classes: measurement of the acceleration due to gravity in introductory physics lab, and measurement of the Hubble constant in introductory astronomy.

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