

Abstract Submitted
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A better method to perform a Coulomb's Law experiment JIM SIZEMORE, Tyler Junior College — Often physics labs omit an experiment on Coulomb's law due to the difficulty of measurement and discharge of objects prior to obtaining good experimental information. Observing that ordinary latex balloons retain their charge over long periods of time I used this characteristic to design a lab where students confirm the inverse radius squared relationship of Coulomb's Law. No new equipment is required with the possible exception of latex balloons. Other equipment needed is usually available in most physics labs and consists of conventional lab stands, thread, tape, and meter sticks. One charged balloon is fixed to a lab stand and is moved during the experiment while a second charged balloon hanging from a string responds to the Coulomb force and the response measured. Actual students performing this lab obtain valid results most of the time and some of those results will be presented. Using this method, charge remains constant throughout the experiment, measurement errors are significantly reduced, the effects is easily observable with the naked eye, students are able to perform a better experiment, and as a result student's understanding of the inverse radius squared law improves. Further improvements are possible and will be discussed.

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