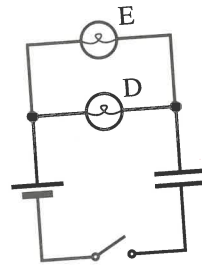


3. *Predict* how the final charge on the capacitor compares to the final charge on the capacitor from part A.

Use a voltmeter to check your prediction.

- C. Suppose that the bulbs were connected in parallel, rather than in series.

1. *Predict* how the *initial brightness* of bulb D compares to the initial brightness of bulb E. Explain.
2. *Predict* how the *initial brightness* of bulb D compares to the initial brightness of bulbs A, B, and C above. Explain.
3. *Predict* how the final charge on the capacitor compares to the final charge on the capacitor from part A. Explain.



Set up the circuit and check your predictions. If your prediction is in conflict with your observation, how can you account for your observation?

- D. After completing the experiments above, two students make the following comments:

Student 1: "The capacitor with two bulbs in series got charged up a lot more than the capacitor with two bulbs connected in parallel because the series circuit charged the capacitor for a longer period of time."

Student 2: "I disagree, the bulbs in the parallel circuit were brighter so this capacitor gained more charge."

Do you agree with student 1, student 2, or neither? Explain your reasoning.