

Abstract Submitted
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Examining student understanding of fundamental concepts in electric circuits¹ MACKENZIE R. STETZER, PETER S. SHAFFER, LILLIAN C. MCDERMOTT, University of Washington, Seattle — As part of an ongoing investigation, the Physics Education Group at the University of Washington is continuing to examine student understanding of fundamental concepts in electric circuits. Several new research questions have been designed and administered to a variety of different populations, including undergraduates in introductory calculus-based courses, preservice teachers, and inservice K-12 teachers. In particular, we have been examining the relationship between the ability of students to incorporate an electrical element into a complete circuit and their understanding of the requirements for the elements internal construction. The results reinforce our findings from previous investigations that many students lack a functional understanding of a complete circuit. The insights we have gained from this research will be discussed in the context of specific examples.

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