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Although two-way contingency tables are certainly not new to elementary statistics courses, we contend that they are underutilized. In this presentation, we demonstrate the versatility of a single problem that may be interwoven throughout an entire introductory course, including college algebra-based and calculus-based courses, as well as beginning graduate service courses. Topical coverage includes, but is not limited to, relative frequencies, bar charts, probability, conditional probability, independence, Bayes' Theorem, odds, relative risk, statistical significance, and inference for decision-making. By introducing a two-way table as early as the first week of the course, instructors encourage informal inferential reasoning to lay the foundation for more formal concepts studied later, building on the framework of Zieffler et al. (2008). This avenue shows much promise, particularly in a problem-based learning environment as proposed by Lawton (2009). In addition, this approach of introducing and expanding discussion of two-way tables early in the course supports the first three GAISE College Report recommendations (Franklin & Garfield, 2006): to emphasize statistical literacy and develop statistical thinking, to use real data, and to foster active learning in the classroom. (Received September 16, 2010)