A solid understanding of confidence intervals (CIs) is of major importance in designing and interpreting empirical results in any scientific discipline. In practice, there are many misconceptions regarding this topic. Identifying CI misconceptions is a first step in designing teaching tools that can be used to prevent or reduce them. This study has been designed to identify and reduce those misconceptions. Three sections of the Calculus-based Introductory Statistics course taught by the authors at a regional comprehensive university in the Southeastern United States have been chosen to conduct the study. A pre-test and post-test have been conducted where a list of possible misconceptions have been provided to all students in those sections before and after the lesson of CIs delivered. Common lecture materials have been prepared for this study. The results obtained from this study will not only identify common misconceptions, they will also propose an educational tool that could be used to confront CI misconceptions. (Received November 11, 2015)