We describe teaching methods and materials developed to help elementary statistics instructors facilitate authentic discovery projects in which students actively engage in statistical inquiry in the context of a real-world application. We examine the distinguishing features of such projects, because not all projects qualify as “discovery projects”. We describe a set of curriculum materials developed to guide instructors and students in the implementation of these projects and share access to these materials. We then share preliminary results from data collected around the country regarding the effectiveness of these methods and materials. These results include findings about impact on student learning and student dispositions, as well as different outcomes observed among individual instructors. (Received September 13, 2013)