While attending the USE Math PREP session in the summer of 2014, I became involved in a project to restructure an existing database. The goal was to make it more usable for students and researchers to carry out investigations. In this talk, I will provide some background on the database, and then discuss the process of restructuring it. Along the way, we will look at this from the perspective of preparing our students – both math majors and general education – to tackle similar tasks and how to avoid the need for restructuring through careful planning. (Received September 16, 2014)