The Sage Colleges offers a program called Girls Excited about Engineering, Mathematics, and Computer Science (GEMS), targeted at girls at the middle and high school level. (See www.sage.edu/rsc/gems.) The over-arching goal of the program is to increase the retention of girls from middle school through high school and into college within these fields, thus addressing the issue of gender equity in mathematics and other STEM fields. The authors received funding from a private foundation to run GEMS for six years. We will describe the components of this program, its evolution to its present form, challenges faced along the way, and will present six years’ worth of data demonstrating its success. (Received September 22, 2009)