The Program in Mathematics for Young Scientists (PROMYS) has offered a six week immersion experience in mathematics to approximately 80 high school students each summer since 1989. Distinctive of the PROMYS approach is its focus on Mathematical Habits of Mind. The presentation will illustrate these principles through an examination of several important features of the PROMYS student experience, including: (1) Immersion in significant mathematical activity; (2) Depth over breadth; (3) Experience before formality; (4) The art of questioning answers; (5) Sustained effort and persistence; and (6) Collaboration within a supportive multi-tiered mathematical community. Concrete examples of particular mathematical activities will be described. As time permits, we will also discuss logistical issues, including recruitment and selection of participants. (Received September 17, 2013)