

**BE WiSE:
 Better Education for Women in Science & Engineering
 A Program of the San Diego Science Alliance**



BE WiSE makes a difference for talented young women who are encouraged to contribute to science and engineering professions. BE WiSE invites girls in grade 7 and 8 to Science Overnights to explore their interest in science, hosts events for BE WiSE alumnae in high school to encourage their selection of more course in science and math, and exposes these girls to adult women scientists who share their knowledge and passion and experiences with science and engineering careers.

BE WiSE selects girls from all across San Diego County and has sustained contact with over five hundred girls over the past 12 years. The first BE WiSE alumnae entered college in June 2003.

BE WiSE Activities

Science Overnights introduce girls to Science

Imagine 40 middle school girls in grades 7 and 8 exploring an overnight scientific adventure, including demonstrations, workshops and a hands-on project, all led by women who work in science every day.

That's a BE WiSE Science Overnight, which begins on Friday afternoon and continues until Saturday. BE WiSE girls must write an essay pertaining to the theme of the overnight and be recommended by their science teacher to be considered and then each overnight group is carefully assembled from different schools to encourage group bonding during the overnight.

BE WiSE overnights can be located in any safe, sheltered location where science demonstrations and activities can take place, especially where women in science work everyday that enables behind-the-scenes tours and discussions of career information.

Past locations include the Reuben H. Fleet Science Center, Birch Aquarium, Hubbs Sea World Research Institute, Mission Trails Regional Park, San Diego Museum of Man, San Diego Zoo Institute for Conservation Research, The Water Conservation Garden, San Diego Natural History Museum, Chula Vista Nature Center and Quail Botanical Gardens.

Book gifts enhance Science Literacy

BE WiSE offers a lasting gift of science literacy by giving science books on the topic of the Science Overnight adventure to each girl and to her school library. The BE WiSE Program donates these books to ensure that the excitement of exposure to science continues well beyond the one night's adventure.

Follow-up activities sustain BE WiSE Alumnae interest

BE WiSE hosts at least 25 alumnae events per school year for Alumnae in grades 8 - 12. Again, women scientists spend Saturdays with BE WiSE girls investigating science phenomena and discussing opportunities in the fields of math, science and engineering.

Past alumnae events have been held at UCSD School of Engineering, San Diego Supercomputer Center, General Atomics, Dow Chemical Company Laboratories, San Diego Nature Center in Chula Vista, Mount Laguna, Mission Trails Regional Park, Legoland, Robotics Lab, Aquatic Adventures, Math for America, UCSD, San Diego Sheriff's Crime Lab, SIO Viz Lab, UCSD Plant Biology Lab, S.D. County Veterinarian Facility, USD Engineering, Hubbs Sea World Research Institute, Miramar College, Biogen Idec Community Lab, NOAA Southwest Fisheries, Genoptix, CareFusion etc.

The Need for BE WiSE

Although women account for half of the population, only 23% of the employees in the science and engineering workforce are women (NSF, 2000). While most educators want to create gender-neutral environments for learning, both conscious and unconscious prejudices exist and discourage girls from male-dominated science and engineering courses.

BE WiSE seeks to excite girls about science and to encourage girls to consider career opportunities in science and engineering

10 Step BE WiSE Program

What does it take to create a BE WiSE program?

1. Buy-in from science coordinators in the school district.
2. Buy in from businesses that have jobs requiring science and math skills.
3. Buy-in from museums, nature centers, aquariums, zoos and other informal science education centers.
4. Formation of a steering committee and plan a science activity.
5. Commitment from women to take charge of the science demonstrations and hands-on activities, and to chaperone.
6. Tentative arrangements and cost for an overnight site, feeding the kids snacks, dinner and breakfast, and transportation.
7. Funding for food, transportation, and site fee.
8. Publicity to teachers and students.
9. Legal stuff (parent permissions, insurance, etc.)
10. Make it happen!

Results

BE WiSE started in 1999 and has encouraged over 900 hundred girls to explore their interests in science. From BE WiSE surveys, we know that every girl knew more about science, every girl agreed that women can excel in science and engineering, 85% reported considering a career in science or engineering, and surprisingly, more than half planned to take a course that they would not have taken otherwise.

BE WiSE alumnae commonly report that they had “fun in learning” and that the program “really made me think about a career in science.” And we know BE WiSE inspires these girls who report “BE WiSE inspired me to enroll in an engineering class and that was the greatest thing I ever did” and who acknowledge the “wonderful women I have met.”

Letters from parents further amplify the effect BE WiSE has on their daughters because “my daughter thoroughly enjoyed and learned so much from the BE WiSE programs” and “showing how to mentor others who come after her, which is desperately needed in both the working world and in the school to career transition.”

Alumnae Testimonial

Hello, my name is Susan Rodgers. I was one of the students who was lucky enough to take part

in the "Who Dunit?" sleepover and the Field day at Mission Trails . . . what a great time I had at those outings and what a lucky person I am to have experienced them, considering they have had a major impact on my life.

You may be wondering how they impacted my life so greatly. Well, after the first outing I was inspired to enroll in an engineering class my first semester at Granite Hills High School. That was the greatest thing I ever did. The class has been the most wonderful experience of my entire school year. I have you and all of the BE WiSE to thank for directing me down the path of engineering . . . BE WiSE has always been a wonderful help and inspiration for me. I have remembered all the wonderful women I have met at the outings. They have helped me to work in an environment where the majority of the students are male (actually I am the only girl in the entire class). Thank you for being such an inspiration.

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A Final Word

All of us associated with this project are enthusiastic about its success and potential for San Diego County students. We are confident that we will continue to receive support from the schools, businesses and community to maintain this exciting project.

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