

Funded Northwest Girls Collaborative Project Mini-Grants

8th Annual Middle School Girls Conference on Math, Science, and Technology:

Each year, this conference brings together hundreds of middle school girls Portland, Oregon to explore their interests in STEM subjects. This mini-grant supports the development of an assessment process enabling organizers to determine the long-term effects of this conference.

Beyond Our Borders: North Okanogan Outreach for Girls in STEM: Beginning in Fall 2003, 50–60 high school girls from remote areas in the North Okanogan area will explore employment opportunities in STEM fields by touring the manufacturing line at Boeing's Everett plant, visiting the Microsoft Museum and accessing the Xbox usability lab, and meeting women engineers at both facilities. A larger group of 150 girls will meet STEM professionals in a series of evening community forums, hosted by the girls themselves. Through these activities, girls will be encouraged to engage in collaborative projects, develop interests in science, math, and technology subjects, and explore STEM-related careers beyond the life of the grant.

Breaking Boundaries Summer Day Camp: The Breaking Boundaries Summer Camp helps Hispanic girls at risk of dropping out of school discover alternative options. During this two-week summer camp, held June 23 – August 15, 2003, 12–16 middle school girls from low-income families in Brewster, Bridgeport, and Pateros, WA built self-confidence and discovered career options through outdoor activities, hands-on science, math, and computer projects, drama, craft-making, and sales. Their experience continues throughout the school year with mentoring and tutoring designed to reinforce skills and help them progress through high school.

Building Better Machines: Each semester, 20 girls from the Langley Middle School (Langley, WA) Girls In Technology program will engage in interesting and practical engineering projects in this two-part program. The program begins with a visit to Boeing, where the girls are introduced to an engineering facility and professional engineers. The second part of the program is a four-week exploration of engineering concepts facilitated by Boeing engineers. Using Capsela construction toys, girls practice problem solving and enhance their comfort with engineering concepts while building motorized machines.

Career Exploration in Engineering, Science and Technology: Forty-five teenaged women at Waldport High School (Waldport, OR) will be introduced to the STEM fields during their visit to the Art Institute of Portland and other industries around the Portland/Vancouver area. By seeing professionals working in this field, the Science and Technology Department teachers hope to expose these girls to STEM careers and stimulate their interests in these fields.

Career Mentoring for Native American Girls: This program selects 20 Native American female high school students in Chemawa, OR to undergo extensive career training in STEM fields. The girls receive pre-employment training and orientation to

workplace culture before being matched with adult mentors who help them locate paid internships in STEM industries. The program hopes to aid Native American youths in their transitions to viable occupations and careers in which they can support themselves and their families.

Development of STEM Enrichment Assessment Tools: This project develops assessment tools to evaluate the effectiveness of girl-oriented STEM enrichment elements currently offered by WSU Spokane MESA and WSU Spokane CityLab. These programs reach over 1,000 young women in elementary and secondary schools each year. With the assistance of a professional evaluator from Eastern Washington University, best practices will be developed to guide the work of these organizations. Professional evaluation of these programs helps ensure their continued success in attracting girls to STEM fields and soliciting funding.

<http://www.spokane.wsu.edu/research&service/HREC/CityLab>

<http://www.spokane.wsu.edu/research&service/MESA>

Dream Big Dreams: This program will help 440 teenaged women at the Chemawa Indian School (Salem, OR) learn about STEM fields. Through girl-oriented hands-on activities, resources, and mentoring from the Society of Women Engineers, the high school will promote learning opportunities in science, math, and engineering and provide a space for learning from professional women in these fields.

Engineering for Girls: Fifty girls at Sehome High School (Bellingham, WA) pursue their interests in engineering by designing house plans using Chief Architect (3D architecture software). Through links with Western Washington University, the girls have the opportunity to meet female engineers and engineering students and learn more about potential STEM careers. They are also encouraged to continue in the high school's engineering program, take advanced engineering courses, and select engineering as a college major.

Eureka Tacoma: Fourteen young teen women in Tacoma, WA developed their confidence and skills in math, science, and sports in this all-girl setting, which encouraged them to speak out, ask questions, and take risks. Over three years of the program, girls encounter progressively more challenging experiences and higher expectations, as well as the skills, teamwork, attitudes, and behaviors that will help them succeed. This intensive four-week-long program, developed by Girls, Inc. and implemented through the YWCA of Pierce County, is designed to have a real impact on girls' persistence in math and science, career planning, and sports participation and on their views of themselves as leaders.

http://www.ywcapiercecounty.org/for_girls.htm

Explore Engineering Kit: This kit provides the entire curriculum and most of the supplies required for a Girl Scout community group to implement an engaging, hands-on engineering workshop for girls in grades 1–3. The kit, developed by the Girls Scouts-Totem Council (Seattle, WA) and the Pacific Northwest Section of the Society of Women Engineers, helps young girls develop critical thinking skills and teamwork in the context

of engineering and design, and enables communities with little or no access to local science resources to bring quality engineering education to their area.

<http://eed.cal.boeing.com/>

<http://www.societyofwomenengineers.org/>

Fair Play: Design & Discover @ Wattles Boys & Girls Club: Twenty girls entering the 7th–10th grades explore design and engineering concepts during this interactive two-week day camp, and the optional six-month mentorship with a professional engineer which follows. During the camp (supported by the Wattles Boys and Girls Club in Lake Oswego, OR), girls meet and work with engineers, designers, and researchers, and then complete an independent project for presentation in a Solutions Showcase.

Fair Play: Design & Discovery @ Westside PAL: Girls entering the 7th–10th grades explore design and engineering concepts during this interactive two-week day camp, and the optional six-month mentorship with a professional engineer which follows. During the camp (supported by the Westside Police Activities League in Beaverton, OR), girls meet and work with engineers, designers, and researchers, and then complete an independent project for presentation in a Solutions Showcase.

Future Connections Girls Summer Program: Eighth grade girls' transition into high school was assisted in this 12-week summer program. These girls visited their future Seattle-area high schools and also learned to develop core values and goals, strategies to achieve goals, and relationships with role models and mentors that will help them succeed there.

Girls on the Sound: Low-income inner-city 7th and 8th grade girls in Seattle, WA increased their critical thinking, decision-making skills, and self-confidence while learning about careers in the environmental and marine sciences. During this three-month program, 12–15 girls selected for their interest in these fields visited the UW Oceanography and marine science research labs, saw women researchers and scientists in a professional setting, and received mentorship from women scientists in the classroom. Girls experienced a one-day sea kayak expedition and an overnight camping trip.

<http://www.salish.org>

Digigirlz: Girls in Seattle, WA from the IGNITE program (Inspiring Girls in Technology Evolution) visit Microsoft for a week during the summer to learn more about technology careers. This collaboration is one way to connect Microsoft to underprivileged girls in the Seattle School District.

<http://www.ignite-wa-us.org>

Lego Robotics Day Camp for Girls: At community centers in Beaverton and North Portland, Oregon, girls in 4th–8th grades will learn the basic elements of Lego Robotics in two week-long day camps to be held in August 2003. Featuring mini-challenges and hands-on engineering experiences in small teams, 48 girls will be introduced to the scientific method, mathematical applications and teamwork strategies used to solve engineering and programming issues. The camps will assist girls in forming teams for

the Intel Oregon FIRST Lego League Tournament in Fall 2003.
<http://www.ortop.org>

OMSI Science Fair: Two hundred girls from Coos Bay, OR are exposed to a popular science exhibition that they might not otherwise see through OMSI's traveling Science Fair in October 2003. The exhibition kicks off a Science Club sponsored by SWOYA Boys & Girls Club and promotes participation in Women in Science Careers Day and the Southwestern Oregon Regional Science Exposition.
<http://www.oms.org>

Science Learning and Underachieving Girls: Teachers, students, and researchers will work together to uncover ways in which underachieving girls can and do engage in learning science. Drawing from University of Washington research and the real-life expertise of inner-city 9th grade science teachers from Garfield High School (Seattle, WA), this collaborative team will design and implement classroom science sessions that combine personal and cultural relevance with scientific inquiry, grounding science learning in the lives of underachieving girls.

Splash Soars: Thirty 8th grade girls will learn and apply the scientific principles of flight as they take control of a glider in flight. These girls will be selected from among the class enrolled in Summer Science Splash, a four-week science program held at Seattle University each summer. This additional enrichment activity will reinforce their interest in science and engineering in a memorable and exciting way.
<http://www.seattleu.edu/splash/>

Tech Challenge: OIT Science and Engineering Fair: High school girls from Oregon's Klamath Basin who are interested in science and engineering are encouraged to participate in the Tech Challenge. This local science fair, to be held in March 2004, is an Intel Science and Engineering Fair supported in part by the Intel Foundation. Tech Challenge targets underrepresented populations, including girls and ethnic minorities in rural communities, in an attempt to encourage their entry into STEM professions.

The House That Jill Built: Girls explore nontraditional career opportunities at the GirlFEST interactive house built by Oregon Tradeswomen, in collaboration with the Columbia River Girls Scouts. GirlFEST, which will be held October 11, 2003 at the Oregon Convention Center in Portland, is expected to attract over 1,500 students from all grades. Special activities designed for each grade level are planned to stimulate and engage girls in the building, construction, mechanical, and utility trades.
<http://www.pcc.edu/pavtec/>

The World and Beyond: Eighth graders at the Seattle Girls' School (Seattle, WA) enjoy an integrated examination of aviation, aerospace, and astrophysics in this year-long curriculum that begins with an actual flight in a small airplane and culminates in building an actual airplane from scratch. Through English, the arts, and STEM subjects, students explore the world of flight and gain skills in a variety of academic areas.
<http://www.seattlegirlsschool.org>

Winterhaven AWSEM Girls Club: Middle-school girls participating in the Advocates for Women in Science, Engineering, and Mathematics (AWSEM) after-school science club at Winterhaven School (Portland, OR) explore STEM careers while working on math and science activities and visiting women actively working in these fields. The AWSEM club(s) will provide a time for 12–24 girls to meet in a cooperative environment where they can explore, learn, and socialize without worrying about gender roles.
<http://www.awsem.org>

Women and Principles of Flight: In association with the Bay Engineering Science Team, forty 6th grade girls at McLoughlin Middle School (Vancouver, WA) will build and fly their own rubberband-powered planes in this hands-on engineering workshop. High school students facilitate the workshops and Society of Women Engineer members mentor and provide career models for the girls. The girls will also be invited to take part in fun regional competitions building and flying rubberband-powered airplanes.

Women in Technology: Girls employ math and science tools learned in the classroom to address a real problem at a local company. In association with Northwest companies such as Tesoro and UPCHURCH, up to 20 young women from northern Washington State will have the opportunity to apply their skills in a collaborative and supportive environment. Tackling these challenges encourages them to think creatively and get involved in math and science.