The Program

Solar Cup™ is a seven-month educational program, sponsored by The Metropolitan Water District of Southern California, in which high school students build and race solar-powered boats, learn about conservation of natural resources, electrical and mechanical engineering, problem solving and much more. Teams are entered and sponsored by Metropolitan’s member agencies and local water utilities.

Single-seat boats, 16-feet-long, are built from kits of marine-grade plywood provided by Metropolitan. Teams equip the boats with steering, solar panels, batteries and motors producing up to 320 watts. The maximum weight, including the skipper, is 450 pounds.

Fun Facts

- Metropolitan’s Solar Cup™ program began in 2002 with just eight high schools and about 100 students participating. In 2018, it has grown to 38 high schools and about 800 students.

- In addition to building the solar-powered boat, teams are required to submit two technical reports and create a water conservation public service project.

- Metropolitan provides the teams with boat kits and tools; local water agencies sponsor new teams with $4,000 and returning teams with $2,500 to equip their boats.

- Newcomer teams and returning teams compete in separate divisions.

- Returning teams must build new boats each year, but may use equipment from previous boats.

- Boat speeds in the 200-meter sprint races—in which the solar panels are removed and power comes from solar-charged batteries—can reach up to 15 miles per hour.

- The endurance race is won by the boat that circles the 1.6km course the most times during the two, 90-minute heats.

- Metropolitan encourages Solar Cup™ participants to consider careers in water and resource management.

- Students have said that participating in Solar Cup™ encouraged them to go to college and to pursue careers in engineering or environmental sciences.

Event Schedule

Friday, May 17: Qualifying events
Saturday, May 18: Endurance races using solar energy collection panels
Sunday, May 19: Sprint races, using energy stored in batteries, and an awards ceremony
Participants & Sponsors

Anaheim HS Anaheim, Anaheim Public Utilities
Burbank HS Burbank, Burbank Water & Power
Cabrillo HS Long Beach, Long Beach Water Department
Calabasas HS Calabasas, Las Virgenes MWD
Centennial HS Corona, Western MWD, City of Corona DWP*
Centinela Valley Union HS Lawndale, West Basin MWD*
Chino Hills HS Chino Hills, Inland Empire Utilities Agency, City of Chino Hills
Compton HS Compton, City of Compton
Costa Mesa HS Costa Mesa, Municipal Water District of Orange County, Mesa Water District
Del Lago Academy Escondido, San Diego County Water Authority
Diamond Ranch HS Pomona, Three Valleys MWD, Walnut Valley, City of Pomona
Don Bosco Technical Inst. Rosemead, Upper San Gabriel Valley MWD*
Downey HS Downey, Central Basin MWD
Eastvale STEM Academy @ Roosevelt HS Corona, Western MWD, Jurupa Community Services District*
Elsinore / Lakeside / Temescal Canyon HS Wildomar, Western MWD, Elsinore Valley MWD
Franklin HS Los Angeles, Los Angeles Department of Water and Power
Ganesha HS Pomona, Three Valleys MWD, City of Pomona
Hemet USD Team Hemet, Eastern MWD, Rancho California Water District
High Tech High North County San Marcos, San Diego County Water Authority
John Muir HS Pasadena, Pasadena Water & Power
La Cañada HS La Cañada Flintridge, Foothill MWD, La Cañada Irrigation District, Valley Water Company
Lennox Math, Science & Technology Academy Lennox, West Basin MWD
Los Altos HS Hacienda Heights, Upper San Gabriel Valley MWD
Los Osos HS Rancho Cucamonga, Inland Empire Utilities Agency, Cucamonga Valley Water
Magnolia HS Anaheim, Anaheim Public Utilities*
McBride HS Long Beach, Long Beach Water Department
Mira Costa HS Manhattan Beach, West Basin MWD
Mountain View HS El Monte, Upper San Gabriel Valley MWD
Nogales HS La Puente, Three Valleys MWD, Rowland Water District
Norte Vista HS Riverside, Western MWD, Riverside Public Utilities
Oaks Christian School Westlake Village, Las Virgenes MWD*
Oxford Academy Cypress, Municipal Water District of Orange County, Golden State Water
Palos Verdes HS Palos Verdes Estates, West Basin MWD
Perris Union High SD Team Romoland, Eastern MWD, Rancho California Water District
Pomona HS Pomona, Three Valleys MWD, City of Pomona*
San Jacinto Valley Academy San Jacinto, Eastern MWD, Rancho California Water District*
Sierra Vista HS Baldwin Park, Upper San Gabriel Valley MWD*
Temecula Valley USD Team Temecula, Eastern MWD, Rancho California Water District
Upland HS Upland, Inland Empire Utilities Agency, City of Upland
Venice HS STEMM Magnet Los Angeles, Los Angeles Department of Water and Power

HS - High School MWD - Municipal Water District * - New Participant

Directions

Take I-15 to Rancho California Road, Temecula; go northeast 10 miles to main gate. Riverside County Thomas Guide page 930, 4-D.

Solar Cup™ video, photos, rules and more are available at mwdh2o.com/solarcup.

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