



Teaching Scholars Project



TOPS Summer Science Program for High School Teachers Biology (June 22-26); Chemistry (July 6-10)

Teachers + Occidental = Partnership in Science (TOPS) consists of science outreach programs planned and directed by teacher participants and Occidental College faculty/staff members (oxy.tops.org).

Participate in TOPS in order to...

Improve our local school's science instruction on key topics from the California State Standards, NGSS, and Common Core, through hands-on laboratories employing modern instruments and pedagogy.

Provide access to classroom scale laboratory kits and equipment in biology and chemistry. These laboratories are aligned with the California science standards, NGSS, Common Core, and many also align with the AP curriculum.

Improve student conceptual understanding of key science topics and practices and at the same time encourage the development of future scientists and science teachers.

How Does It Work?

- ✓ Teachers attend a one-week summer institute (5 days) at Occidental College
- ✓ During the academic year, the teachers receive 3, weeklong, on-site, coaching mentoring sessions where the classroom teacher and the TOPS staff conduct **teacher-selected laboratories** with students at the school site.

Biology Labs:

- ❖ DNA Restriction Endonuclease Site Mapping
- ❖ Drosophila Genetics & Underlying Phenotypes
- ❖ Factors Affecting the Activity of Amylase
- ❖ Fish Protein Electrophoresis
- ❖ Photosynthesis
- ❖ Water Quality Analysis

Chemistry Labs:

- ❖ Acid-Base Titration of Amino Acids
- ❖ Caffeine Extraction
- ❖ Esterification
- ❖ Greenhouse Effect
- ❖ Kinetics/Catalysts
- ❖ Stoichiometry/Limiting Reagent
- ❖ Thermodynamics

Benefits of Participation:

- Summer professional development
- Use of prepared and tested science laboratories tied to NGSS/CCS
- 3 coaching-mentoring sessions in the classroom provided during the academic year
- Membership in a 22-year science network

To enroll in this exciting opportunity please complete the registration form at:

<http://oxy.edu/teaching-scholars-program>
Or contact: Dr. Alegria at alegria@oxy.edu

Occidental College is located in Eagle Rock, Los Angeles