

## BAY SCHOOL ASTROPHYSICS STUDENTS LAUNCH SPACE BALLOON TO ALTITUDE OF 75,000 FEET TO COLLECT ATMOSPHERIC DATA



On May 22, 2010, students from The Bay School of San Francisco launched an 8-foot diameter helium balloon, carrying a payload that included a video camera, temperature and pressure sensors, and tracking equipment to “the edge of space.” The flight lasted 1 hour, 20 minutes and the payload traveled 85 miles. The balloon reached an altitude of 75,000 feet before bursting, twice as high as commercial airliners fly, and above 95% of the earth’s atmosphere by mass.

Led by astrophysics instructor, Richard Piccioni, and research instructor Craig Butz, the students spent a week in March designing and building the probe, dubbed Ikaros I, as part of the school’s annual Intersession Program, a week of hands-on, experience-based classes that are a central part of the Bay School’s forward-looking college preparatory curriculum.

After several additional meetings to complete the craft, the team traveled to Carmel-by-the-Sea for a noon launch. After inflating and releasing the balloon, they tracked the payload’s GPS location sent by an Automated Packet Reporting System transmitter and a cell phone programmed to report its location through mobile internet.

As the vehicle flew over Pinnacles National Monument, the group followed it from Carmel River State Beach to the Central Valley and located the balloon on a hillside along an uninhabited stretch of I-5 south of Mendota.

During the flight, the payload got a taste of the harsh conditions beyond the protection of the Earth's atmosphere. Temperatures dropped as low as 50 degrees below zero and atmospheric pressure was 5% of what it is at sea level.

In the coming weeks, the students will be analyzing the data about temperature, pressure, and atmospheric composition they retrieved, posting a video of the mission online, and discussing goals for Ikaros II.

Congratulations to the Ikaros Team!

*Flight day:*

Robin Cassatt-Johnstone  
Sam Green  
Jesse Greenfield  
Meyer Jacobs  
Greg Karp-Neufeld  
Lucas Peck

*Design & Construction:*

Willie Caldwell  
Ben Gershbein  
Ian Matthews  
Tom Mitchel  
Daniel Stuff  
Noah Tuchow

*Teachers:*

Richard Piccioni  
Craig Butz



