

LUSD 2015

STEAM

Science
Technology
Engineering
Art
Math

M

Festival

Districtwide STEAM Community Outreach

Friday, May 29, 2015

Lompoc High School Cafeteria & Surrounding Area

6 to 8 PM

Design & Engineer



Catapult Prototypes



Sliding Friction Demo



Wind tunnel test of student clay models





EXIT
ROUTE

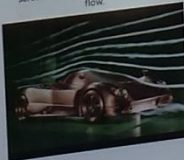
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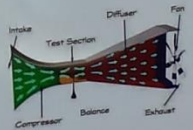
Wind Tunnel
By: Greg Ritter, Jared Geraets, Michael Wu, and
Nick Laurita



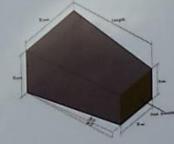
Compressor
The compressor constricts the space the air flows through which greatly increases its velocity. It also contains a screen that helps smooth out the air flow.



Test Section
The test section is where data is gathered and visual inspections are made.



Wind Tunnel
The first attempts to study aerodynamics were done nearly 300 years ago with nothing more than a spinning fan blade. It wasn't until the late 1800s that the first wind tunnel was designed and by the early 1900s the four component design had become widely used. Today the largest test tunnel is in Ames, Iowa with a test section of 80 by 120 and there are several hypersonic wind tunnels that can generate winds with speeds over 11,000 mph.



Diffuser
The diffuser gradually widens which allows the air speed to decrease and pressure to increase. This helps reduce the power needed for the wind tunnel and helps decrease draft.



Fan
The fan pulls the air through the test section. It is placed at the end of the test section so the air flows smoothly and is not choppy from the fan blades.

Helicopter build station





Recovery system design test

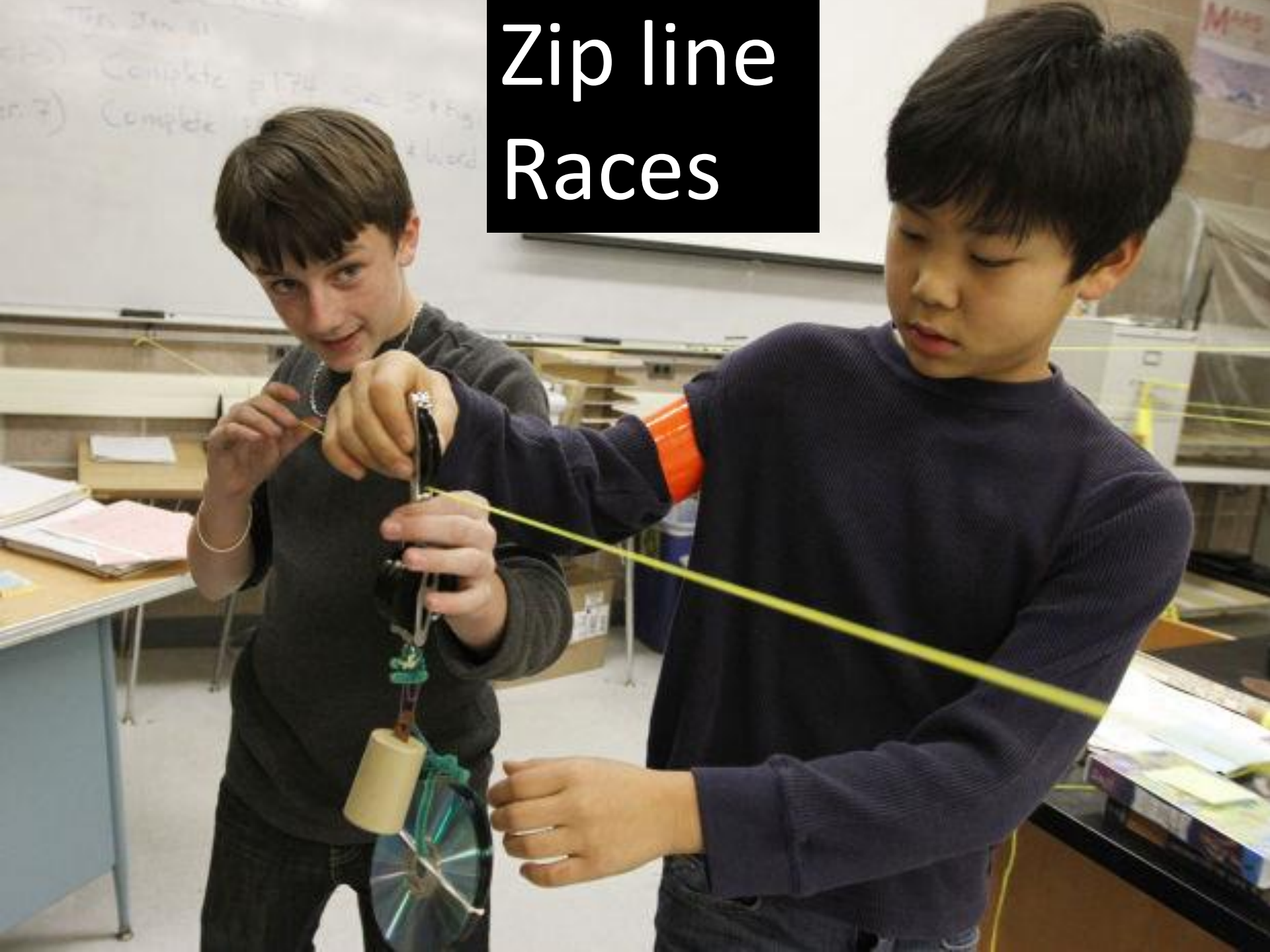


Trebuchet
Wall Buster



Hot Air Balloon

Zip line Races





Newton cars

Kelp Holdfast Investigation







<https://www.flickr.com/photos/usasef/with/14628274421/>

Who are we seeking to Participate?

- Teachers
- Clubs
- Student groups (of approximately 2 to 6)
- Local businesses (e.g. Santa Barbara Skydive, Surf Connection, Hobby Shops, etc.).
- Companies (e.g. United Launch Alliance, Raytheon, SpaceX, etc.)
- Colleges and Universities (e.g. UCSB, Cal Poly, AHC)
- Vandenberg AFB volunteers
- Artists
- Historians showing pivotal technology advancements.

How Can You Participate?

1. Sign-up for a class booth (e.g. Art design, Physics, Biology, Geology, New or Historic Technology, Anatomy, Chemistry, Marine Biology)

or

2. Have multiple student teams sign up for individual booths. Student teams develop a hands on activity or exhibit (Show or teach a Science, Technology, Engineering, Art, or Math concept)

How Can You Participate?

3. Get word out and encourage teachers in art design, clubs, ROP/CTE, history & technology to sign-up for a class or student booths.
4. Volunteer to be a Point of Contact (POC) for your campus recruit teachers and students to sign up for booths.
5. Get word out to community to participate May 29 from 6 to 8 pm. Offer incentives for students and families to participate (\$\$, A's).