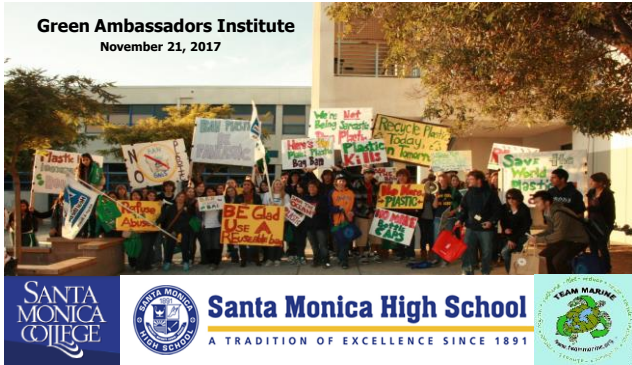


Engaging Students in Sustainability Education

By Team Marine

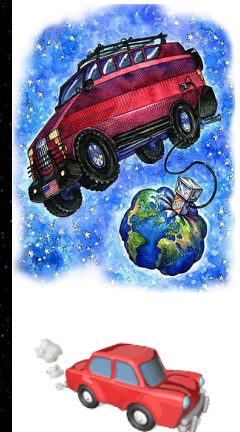
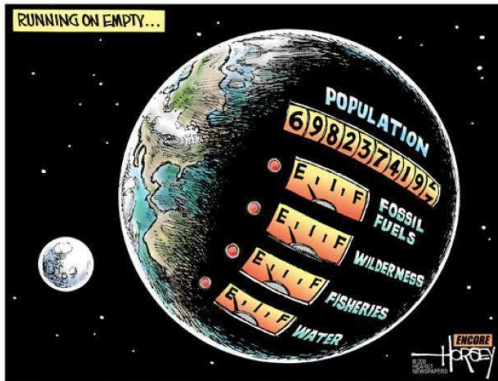


Presentation Resources

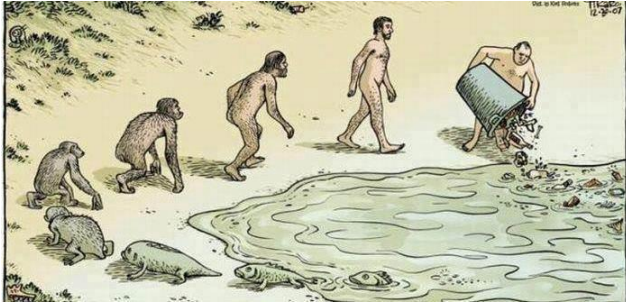
- Go to edmodo.com
- Enter code: s4m7tj
- Go to settings, enter email and/or phone to receive posts about upcoming community events
- Go to folders to find resources and copy of this PPT, etc.



I. Background



Welcome to the Anthropocene!



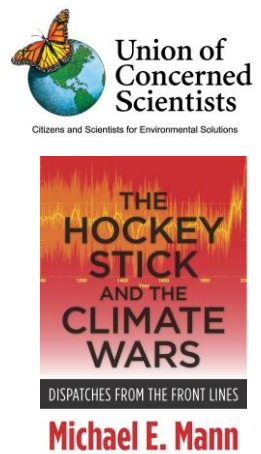
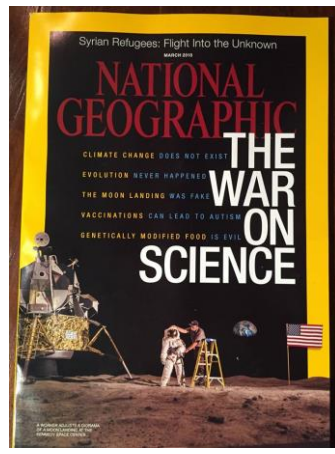
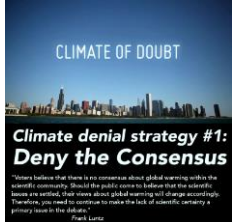
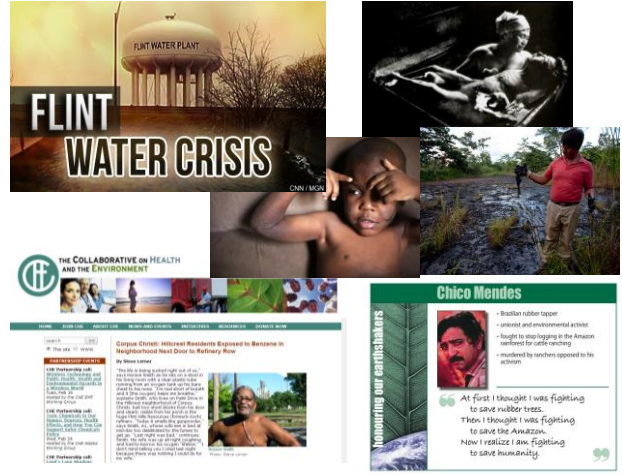
No Recycling **Global Warming** **HABS**
Oil Spills **Illegal dumping** **M**
Overfishing **Overconsumption** **P**
Toxic Cleaning Products **Single-use Plastics** **A**
Deforestation **Dead Zones** **S**
Ocean Acidification **Water Shortage** **Urban Runoff**

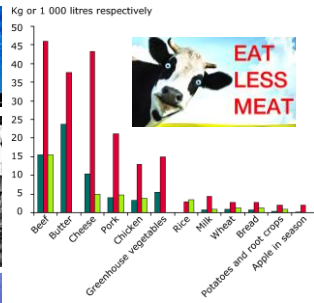
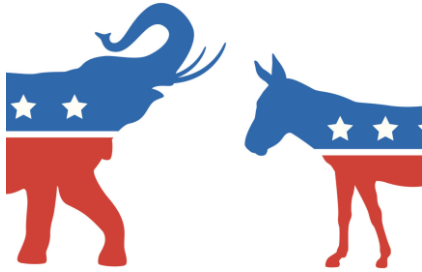
NATIONAL GEOGRAPHIC Daily News
Climate Milestone: Earth's CO2 Level Passes 400 ppm
Greenhouse gas highest since the Pliocene, when sea levels were higher and the Earth was warmer.



Two teams of scientists at the Mauna Loa Observatory in Hawaii have been measuring carbon dioxide concentration there for six decades, and have spotted the level tick beyond a new milestone.









Volunteer Simplicity – Are You Downshifting?

.....People who advocate volunteer simplicity maintain that their lifestyle gives them less “things” but more time—time to do volunteer work, experience the natural world, and enjoy relationships.

Before purchasing a product, individuals should ask if it is really needed. A material lifestyle—two or three cars in the garage, steaks on the grill, a television in every room, and similar luxury items—may provide short-term satisfaction. Such a lifestyle is not as fulfilling in the long term as learning about the world, interacting with others in meaningful ways, and contributing to the improvement of family and community. In the end, a rich life is measured not by what was owned but by what was done for others.

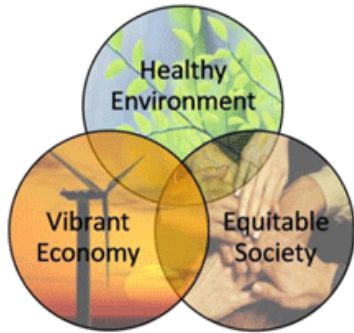
REVIEW Raven et al. 2010 – Environment 8e







II. Sustainability Education



- “We can’t protect what we don’t understand.” - The Living Sea
- “People protect what they love.” - Jacques Cousteau
- “In the end, we will conserve only what we love. We will love only what we understand. We will understand only what we are taught.” - Baba Dioum
- “Education is the most powerful weapon which you can use to change the world.” - Nelson Mandela
- “Tell me, I’ll forget. Show me, I may remember. But involve me and I’ll understand.” - Chinese Proverb

Getting Started

1. Transform the Learning Space

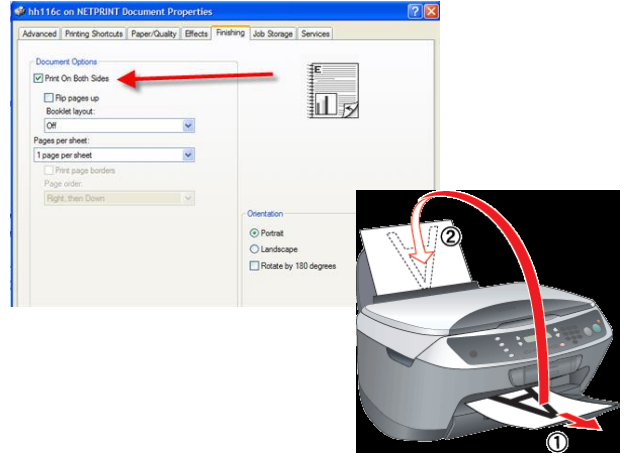






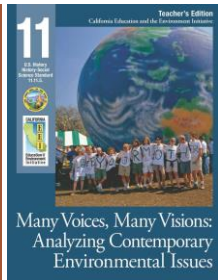
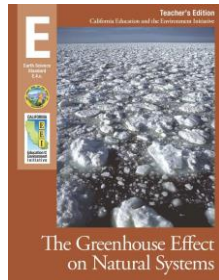
2. Role Model Solutions





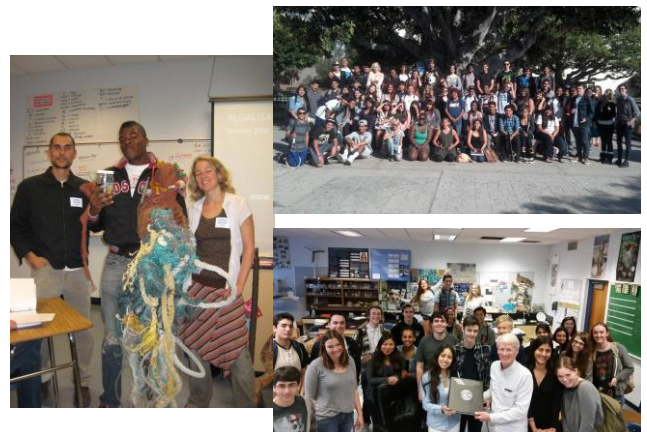
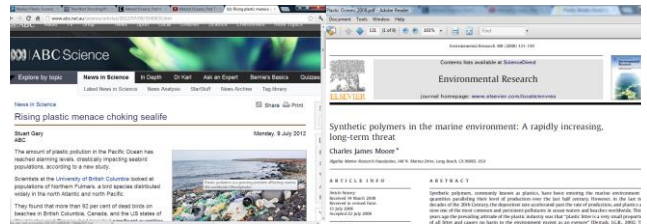
3. Integrate Meaningful Curricula





www.calepa.ca.gov/education/eei

password: teacheei





4. Sustainability Projects



Star King MS



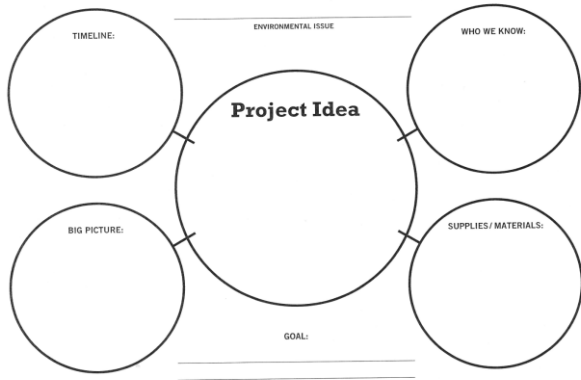
“aka Mr. Kay 2.0”

- Four Part Project
 - Topic Proposal
 - Annotated Bibliography
 - Summarize, assess, reflect
 - Project Execution
 - 1. MISO (Media, Interview, Survey, Observation) = 5 hours minimum
 - 2. Data Collection = 5 hours minimum
 - 3. Awareness/Solutions Campaign = 10 hours minimum
 - Project Reflection (Letter)

Student Name: _____ Project Title: _____

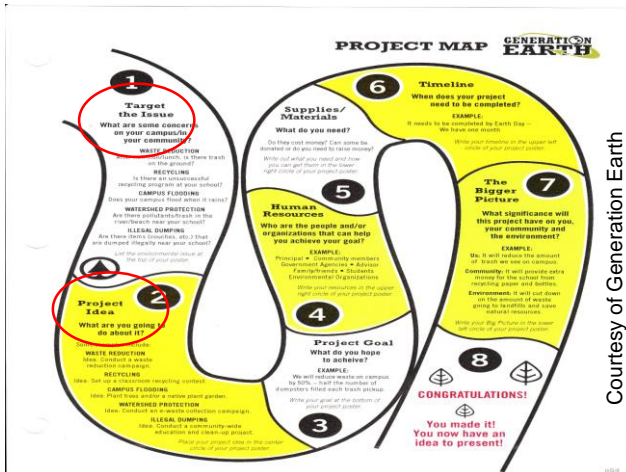
SUSTAINABILITY PROJECT ACTIVITY LOG			
Date	Activity and Brief Description	Hours Spent	Proof and Brief Description (attach appendices as needed)
x	MISO	≥5 hrs	Name of websites, films, news, and people; include signatures, URLs, survey Qs, etc.
x	Data Collection	≥5 hrs	Data tables, graphs, statistical analysis, relevant photos
x	Awareness/Solutions Campaign	≥10 hrs	Photos, press releases, propaganda, URLs to multimedia, copy of letters

IDEA MAP



Courtesy of Generation Earth

- WU1 (already done?): Why is science important to improving our world?
- WU2: Has science lead to any problems in the world? Please elaborate.
- WU3: What does sustainability mean to you?
- WU4: What specific roles do scientists play in so far as advancing sustainability?
- WU5: How do scientists avoid being biased in their experimentation?
- WU6: In today's world, overall, are humans having a positive or negative effect on ecosystems? Explain your position.
- WU7: Are there any local issues at your school or in your community that you are concerned with that jeopardize your well being or that of other species and their habitats?
- WU8: Is science trustworthy? Why or why not?



Courtesy of Generation Earth

Group Asset Inventory

1. Talking With People	2. Drawing or Painting	3. Reading to learn new information	4. Listening to and helping others
5. Writing or telling stories	6. Taking photos or making videos	7. Creating graphs and charts	8. Finding creative ways to solve problems
9. Composing letters and emails	10. Arranging and/or decorating spaces	11. Working with numbers	12. Organizing information
13. Dancing, singing, or being silly	14. Making documents look nice	15. Documenting or recording information	16. Making schedules and to-do lists
17. Using social media	18. Communicating ideas using images or pictures	19. Analyzing and synthesizing information	20. Creating systems or procedures

Courtesy of Generation Earth

Community Assets?

- Are there any agencies, NGOs, individuals, businesses, news media that you can partner with?
- SYNERGY = amplifies your message



Planning Your Campaign

- Who's your target audience?
 - Bottom up vs. top down approach or both?
- What forms of outreach will you use?
- What data or resources do you need to leverage your outreach?
- What challenges might you face in executing your project?
- How will you keep your group engaged?

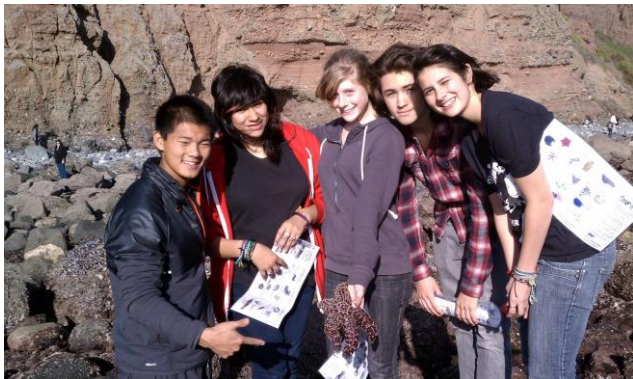


Reflection

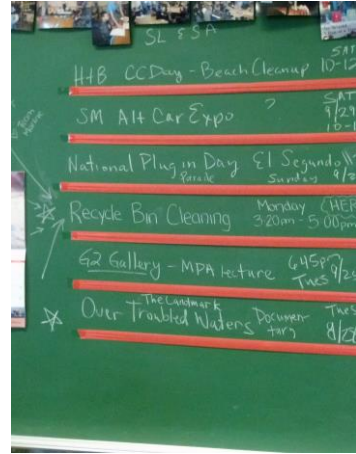
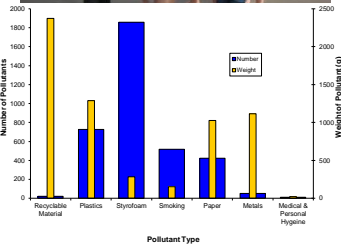
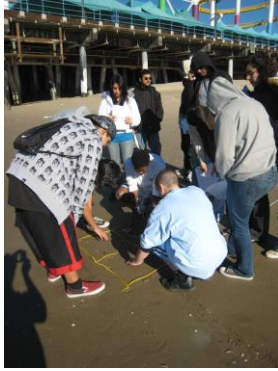
- Dear future student:
 - Project Title
 - Recap the problem
 - Recap your group's goal(s)
 - Summarize what you did to address/mitigate/remediate the issue(s)
 - What are your group's most important scientific findings that helped get you closer to meeting your goal(s)?
 - What part(s) of your project's campaign are you most proud of and why?
 - What part(s) of your project were the weakest and why?
 - What advice or strategies do you have for next year's students in so far as carrying on your work toward increasing sustainability?

5. Connect to Nature and Community









6. Compete

1. BOW SEAT
2. COUNTY SCIENCE FAIR
3. ALLIANCE FOR CLIMATE EDUCATION
4. GENERATION EARTH



ALLIANCE FOR CLIMATE EDUCATION



LOS ANGELES COUNTY SCIENCE FAIR



7. Advise a Club



1. Beach Cleanups



Bay St. Surf Spot October 6, 2010





2 Hrs
Later
→



2. Habitat Restoration



3. Recycling





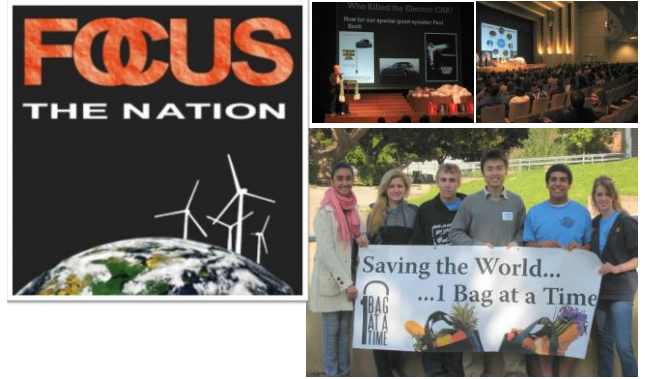
Recycling for LifeStraws





Rose Parade

4. Host Environmental Events



Earth Day

5. Collection Drives



6. Eco-artwork





7. Build Stuff



“Coke Float” “Lighter Board” “The Last Straw”



Solar Cup



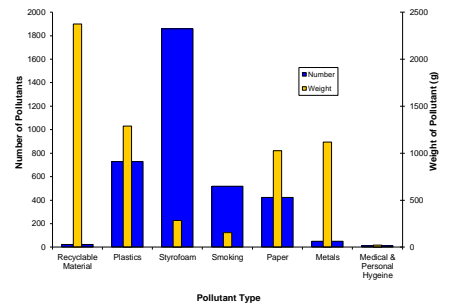
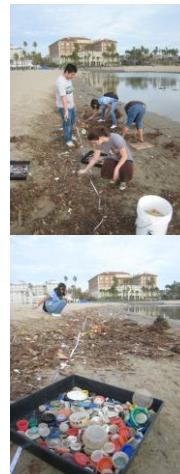
Gas to Electric Car Conversion

TEENNICK Plug In America.





8. Real Research

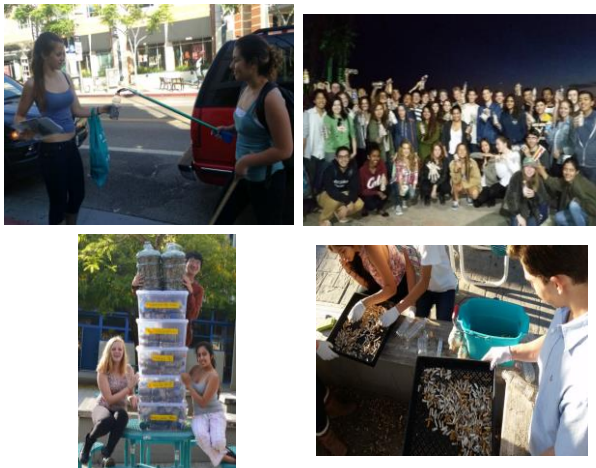
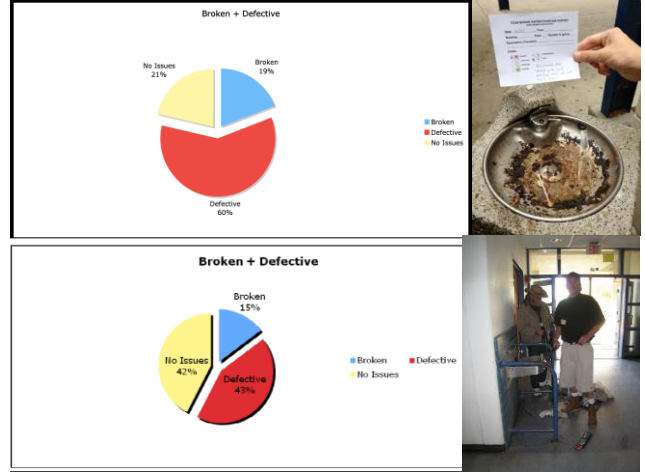


Team Marine Water Fountain Classification System

Every water fountain must be marked either **B (Broken)** or **W (Working)**, and then marked with any other code that applies.

Water fountains marked **L (Low Flow)**, **O (Overflow)**, and **LP (Low Pressure)** are considered **working**. A classification of **D (Dirty)** can be given to **W (Working)** and **B (Broken)** water fountains.

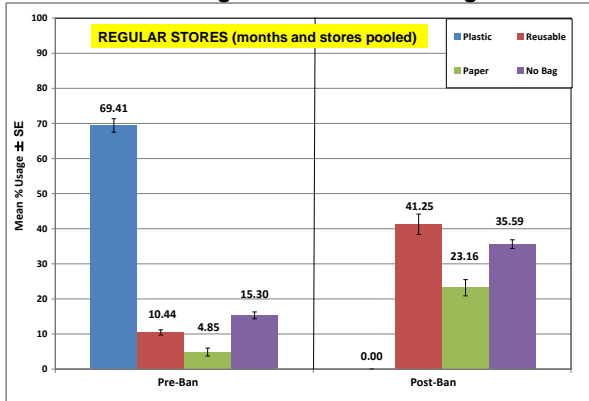
B	Broken Non-functioning	LP	Low Pressure Difficult to drink water or fill water bottle
L	Low Flow No visible arc	D	Dirty Dirt, debris, dust, grime, or food on faucet or in basin
O	Overflow Spills out of basin		
W	Working Water fountain is functioning (regardless of condition)		

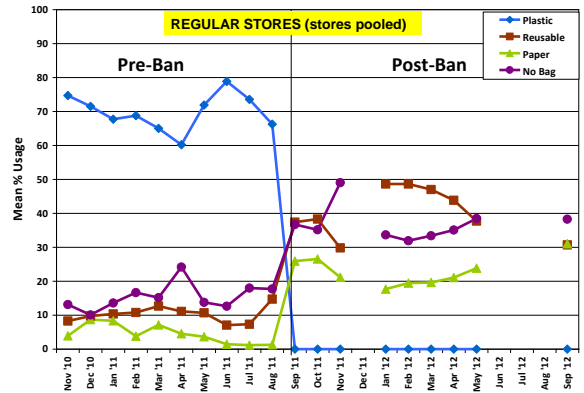
Consumer Bag Selection – Pre and Post Bag Ban



Results Effects of Bag Ban on Patrons' Bag Choice



Results Effects of Bag Ban on Patrons' Bag Choice



9. Direct teaching





10. Lobby Policymakers



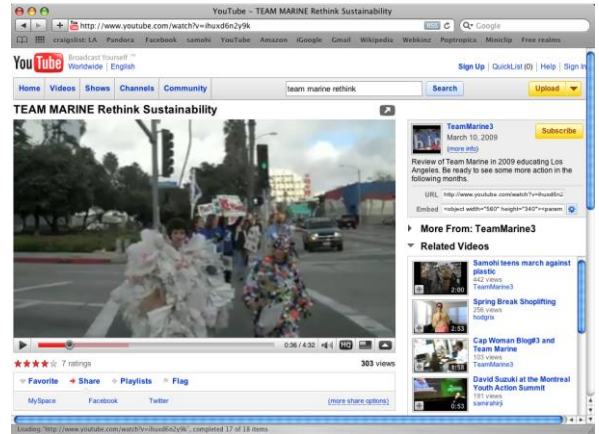
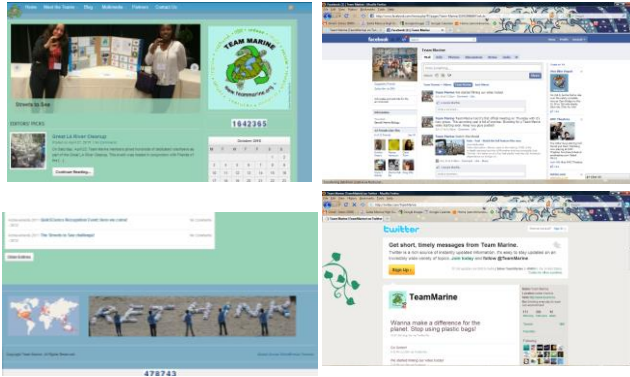
11. March for a Cause



BooYa!



12. Multimedia/Social Networks



13. Student-designed Eco-gear

1. Organic cotton or bamboo t-shirts
2. Biodegradable pens/pencils
3. 100% recycle paper business cards
4. Stainless steel canteen and/or canvas bag
5. Signs, Banners, Stickers



14. Letters and Petitions



15. Press Releases



FOR IMMEDIATE RELEASE ~
MORE PICTURES BELOW

Bottles, Butts, and Bacteria – Oh My!

By Team Marine

(www.teammarine.org, <http://www.teammarine.blogspot.com/>, and <http://teachtestsm.blogspot.com/>)

Santa Monica High School 601 Pico Blvd. Santa Monica, CA 90405

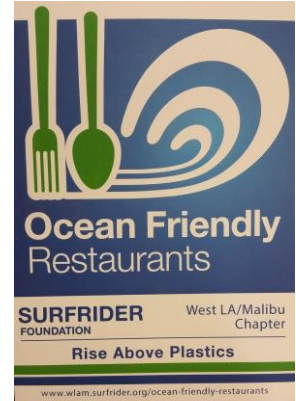
Student Contact: Kou Collins koucollins@gmail.com (310) 383-0029

Teacher Contact: Benjamin Kay bkay@smmusd.org (310) 395-3204 x71127



Last week October 4, 6 members of Santa Monica High

16. Partnering and Networking



17. Sustainability Action Plan

Sustainability Policy Outline

School Products

a. Food and drink

i. Dishware

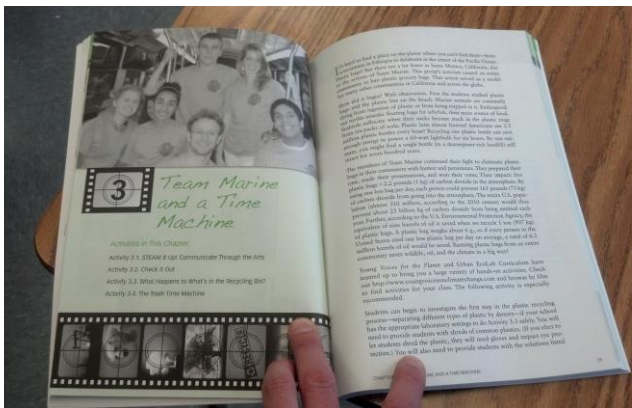
1. Objective: We want to change our current single-use plastic utensils and containers in our school cafeteria to clean, compostable cutlery and dishware.
2. Benefits: It would improve student's health by eliminating the ingestion of toxic byproducts of the plastics. It would enhance our school's image to be environmentally sustainable. Our environment would be spared of the toxic plastics clogging our landfills, cluttering our streets, and killing marine life.
3. Case studies: Since 2008, Harvard University has annually hosted popular and successful Zero-Waste Events in which they supply the guests with environmentally friendly products such as compostable dishes, cups, and utensils.

ii. Water bottles

1. Objective: We want to change existing single-use plastic water bottles to reusable water bottles.

18. Leveraging Media





September 25, 2011



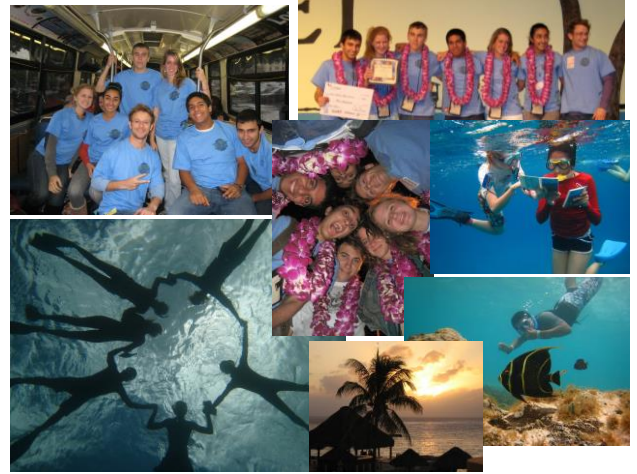


19. Meeting People Who Matter



20. Winning







Campaign Topic Ideas

- Water Quality
 - Runoff, desalination, lead in drinking water
- Plastic Pollution
 - (Polystyrene SB 705, EPR, Preemption Laws, smoking bans, upon request amendments, litter enforcement, law loopholes, more fountains, storm drain screens and filters)
- MPA Enforcement
- School/District
 - Sustainability in mission statement, sustainability committees and directors

TIPS FOR GROUP SUCCESS:

1. Engage in as many school and community eco-events related to your topic as possible...immerse yourselves
2. Meet and communicate frequently with your team (2-5 times per week)
3. Stay organized (make contact list, group text msgs, Google group listserv for email, Google shared calendar, competition portfolio w/ dividers, take role each meeting, have concrete agendas)
4. Be creative with your outreach to gain more exposure
5. Divide tasks according to ability and interest
6. Network at eco-events for future collaboration
7. Appoint group leaders after organic reduction in group attendance
8. Apply for grants as needed
9. Use news/media and social networks to bring attention to the cause
10. Keeping group small (6-10 people) is ok, and often more productive

Tips cont.

11. Take precautions: fill out media release forms and field trip slips
12. Keep your admin informed and seek blessings
13. Have fun, go huge, celebrate your successes, & reflect
14. Announce successes via school-wide email, emails to school board, press releases, etc....BUILD POLITICAL CAPITAL
15. Leverage success and relationships to REDUCE PLASTIC POLLUTION
16. FUNDING: District, NEA, Target, Best Buy, California Coastal Commission Whale Tail, Roots & Shoots, City, Good Corporations, Donations
17. COLLABORATE w/ fellow teachers, other schools, community members
18. Three things more important than the cause: HEALTH, FAMILY, GRADES
19. Hurdles: time, sleep, \$, red tape, bad admin, teaching standards***

Effects of Green Education?

- Also referred to Sustainability Education
- Boosts environmental literacy, problem solving
- Improves tests scores
- Mends achievement gaps
- Augments attendance and graduation rates
- Gives students a higher sense of purpose to learn
- Empowers people to effect positive changes
- Leads to healthier communities with less pollution
- Dismantles or prevents social injustice / environmental racism

Thank You,
ECHS and G.A.