



Student Action Projects

1. Letters to a Pre-Scientist (5th & 6th grades)

PURPOSE: [Letters to a Pre-Scientist](#) is a year-long, snail mail pen pal program that connects students with a worldwide network of real STEM professionals to demystify STEM careers, humanize STEM professionals, and empower all students to explore a future in STEM. LPS works exclusively with schools in low-income communities and the program is provided at no cost. LPS covers the cost of all materials (such as stamps and envelopes). Watch the [letter opening party](#) to get a gist of the program.

Action Steps:

1. Subscribe to the [mailing list](#) to receive notifications of when teacher recruitment launches (typically in the spring).
2. The program requires at least 10 60-minute class periods spread throughout the year to successfully implement. LPS staff set program milestones individually with each teacher specific to their school calendar.
3. With lots of LPS support, teachers guide students to write letters and address envelopes. Then, teachers collect the sealed envelopes and mail them out to STEM pen pals around the world! Throughout the following six weeks, teachers collect reply letters from STEM pen pals that arrive at their school and, when teachers have one for every student, begin the process all over again.
4. There are four letter rounds per school year; each round has a [theme](#). In addition to addressing the theme, LPS staff encourage students to share their stories and ask lots of questions to connect authentically with their pen pal. Over the course of the year, students write four letters and STEM pen pals write four letters.
5. Upload a subset of student letters to your school's Google folder

2. Plastic Use Audit (6th grade)

PURPOSE: Conduct an investigation to determine the types and quantities of plastic waste generated in the classroom, home and/or school-wide.

Action Steps:

1. Introduce the issue of plastic pollution and focus questions to students (see Monterey Bay Aquarium activity [here](#)).
2. As a class, determine a question or problem to investigate with a plastic audit.

3. Design the investigation as a class.
4. Conduct the audit.
5. Analyze audit data.
6. Students formulate a conclusion.
7. Propose an awareness message about plastic consumption for your school, classroom or student households.
8. Conduct a follow-up audit and compare results with initial audit.
9. Return to the focus question.
10. Upload Plastic Audit Data Sheet to your school's Google folder

3. School Energy Audit (6th grade)

PURPOSE: K-12 schools in the United States spend more than \$8 billion every year on energy. The energy used to light classrooms and hallways, power computer labs, and heat and cool school buildings costs more than textbooks and technology combined, and more than teachers' collective salaries. It is estimated that up to 30 percent of the energy consumed in schools is wasted!

Action Steps:

1. Complete the [ENERGY STAR Energy Efficiency Student Toolkit](#)
2. Upload the completed Energy Efficiency Student Toolkit to your Google folder

4. Citizen Science- [Surfrider Foundation's Blue Water Task Force](#) (6th grade)

PURPOSE: The Blue Water Task Force is the Surfrider Foundation's water quality monitoring program run by dedicated citizen scientists who help provide water quality information to their local communities.

Action Steps:

1. Sign up for this citizen science opportunity with Surfrider here: bwtf@santacruz.surfrider.org
2. Review sampling instructions: <https://vimeo.com/367331845>
3. Upload pictures to your school's Google folder

5. Beach/Watershed/School/Neighborhood Cleanup (All grades)

PURPOSE: Raise awareness about marine pollution, contribute to the reduction of garbage and plastic in the ocean, and protect sensitive wildlife.

Action Steps:

1. Option to work with a local non-profit ([Save Our Shores](#), [Surfrider](#), or the [Coastal Watershed Council](#)) to help organize a beach or watershed clean-up day.
2. Identify a clean-up site.
3. Gather supplies (trash bags, first aid kit, sanitizer, gloves, etc.)

4. Plan how to handle the recyclables.
5. Track your trash using a [Trash Log](#).
6. Present the findings at your school or to another class as a way to educate others and help spread the impact.
7. Upload the completed Trash Log to your school's Google folder.

6. Waste A-Weigh (All grades)

PURPOSE: Students weigh and record their lunch waste every day for one week and learn about how conservation efforts can reduce the total amount of trash generated.

Action Steps:

1. Develop and implement ways to create less waste during lunchtime.
2. Record and analyze data on the [Waste A-Weigh worksheet](#) to determine the weight of waste produced during a week, and the amount of waste saved as a result of conservation efforts.
3. Identify ways as a class or school to continue waste reduction efforts.
4. Students write a 2-4 paragraph reflection (e.g. trends that emerged, a surprising finding, an important takeaway, etc.) from this exercise.
5. Upload the completed Waste A-Weigh worksheet to your school's Google folder.

7. Write a letter to an elected official regarding an environmental issue of concern (5th & 6th grades)

PURPOSE: Elected officials rely on us, their constituents, to tell them how they should vote and what issues they should work on during their term in office. One of the best ways to tell an elected official what environmental issue you care about is to write them a letter!

Action Steps:

1. Explore a local, state, or federal environmental issue of concern.
 - National environmental legislation: [National Legislative Information](#)
 - California environmental legislation: [California Legislative Information](#)
 - Find your local, state, or national representative [USA.gov](#) will help you find your city's website. On your city's website, you will find the names of your local elected officials and their contact information. [Open States](#) will help you find the names of your state representatives and state senators and their contact information based on where you live. You can also find information for statewide officials like the governor and secretary of the state.
 - [The United States House of Representatives](#) website will help you find your Representatives in Congress.
 - [The United States Senate](#) website will help you find your Senator.

2. Explore the Communicating with Legislators resource [here](#).
3. Upload the student letters to your school's Google folder.

Sample letter

Here is a sample letter to help students write their own letter to an elected official. Students can fill in the blanks where they see words in [brackets]:

Dear [Mayor/Representative/Senator/Governor] [NAME],

My name is [NAME] and I am a 5th grader at [SCHOOL] in [CITY]. I live at [ADDRESS] in [CITY]. I am writing to you today because I am concerned about [ISSUE]. This is an issue that affects me, my family, and my community because [HOW IT AFFECTS YOU]. I believe that this issue is important because [WHY IT IS IMPORTANT]. I hope that you can help me find a solution to this problem in our community, and I hope that you will consider bringing this issue to our [CITY COUNCIL/STATE LEGISLATURE/CONGRESS].

Thank you very much for your attention to this issue. With your help, I believe that we can find a solution.

*Sincerely,
[NAME]*

8. Students organize a plastic-free campaign for their class or school (All grades)

PURPOSE: Students commit to not using single-use plastic for up to one week (including bottles, take-out food containers, utensils, bags, and wrappers). Students bring awareness to their campus community and families about the harmful impacts of plastic waste on our health and the environment.

Action Steps:

1. List the single-use plastic waste students commonly use throughout the day.
2. Identify alternatives students can use (reusable bottles, metal/bamboo/paper straws, reusable lunch bags, etc.)
3. Speak to the principal and staff about the campaign
4. Create posters to inform the school campus community and recruit other classes
5. Hold a campaign launch day
6. Complete the [Plastic Free Action Plan](#).

7. Upload the completed Plastic-Free Action Plan to your school's Google folder.

9. Public Service Announcement (PSA) about an environmental issue of concern (5th & 6th grades)

PURPOSE: Create a short PSA video, audio recording, or poster that informs classmates or the school about an important environmental issue of concern and how to help.

Action Steps:

1. Identify your topic
2. Develop the key messages
3. Research the topic
4. Identify your audience
5. Develop a hook (why should we care?)
6. Create an outline (identify major points you want to cover in the PSA, structure the flow or layout of the video, audio recording, or poster)
7. For the video and audio recording, decide on an appropriate length (aim for 30-60 seconds)
8. Produce the video (cell phone cameras work great!), audio recording, or poster
9. Showcase to the class or school
10. Upload the student PSAs (videos, audio recordings, posters) to your school's Google folder.

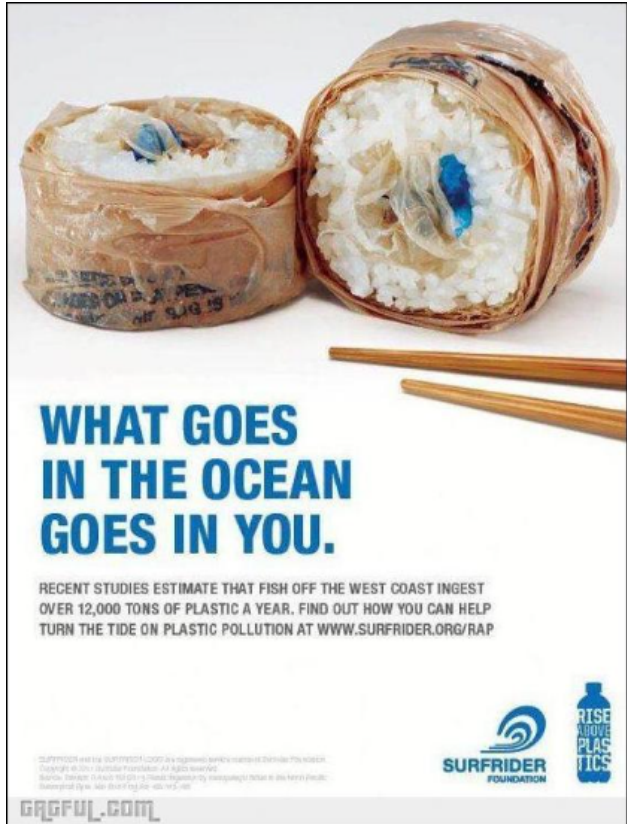
Sample film PSAs:

- Break up with plastics: <https://www.youtube.com/watch?v=6butzqRy6dg>
- End Plastic Pollution: <https://www.youtube.com/watch?v=Y-CAMC8saDc>
- Food Waste: <https://www.youtube.com/watch?v=T5Us69fSM9M>
- Time for Nature: <https://www.youtube.com/watch?v=s8AmmaJqHeE>
- Clean Water: <https://www.youtube.com/watch?v=kj88niHbVE0>

Sample audio PSAs:

- [What you can do about climate change at home](#)
- [Ensure the Environment](#)

Sample poster PSAs:



Source: Surfrider Foundation
 Association to Save the Sea Turtles



Source: Mediterranean

10. Option to pitch a project that is not on this list

- Feel free to pitch an alternative Student Action Project to program@oneillseaodyssey.org
- In your request, please include the following information:
 - 3-5 sentence description of the project
 - For quantitative projects, provide metrics for how your students will measure impact (be specific).
 - What are the deliverables you plan to share with OSO staff (e.g. impact worksheet, photos, art, etc.)