



Fairchild Challenge at Phipps

2019 – 2020 Challenges In-Depth

Challenge 5: Environmental Action

“Prevalent Plastics: A Plastics Audit”

For individuals or groups | **200 points will be awarded upon completion of this challenge**

Due at Phipps: Friday, May 1 by 5 p.m.

Your Challenge:

Plastics are used for just about everything, from automobiles and medical supplies to food packaging and even our clothing. Because plastic is durable and lightweight, it has allowed humans to make advances in many areas including medicine, food storage and shipping, but not without consequence. Plastic’s useful qualities also make it a persistent form of waste. Plastic litter has become part of almost every landscape, affecting habitats and people all over the world. Instead of biodegrading, plastics break into smaller and smaller pieces that leach chemicals and contaminate water sources. Plastic also takes a lot of energy and resources to produce and even properly recycled plastics aren’t free from impact.

While ending all plastic use isn’t likely to happen, reducing plastic use can have a real impact, especially when it comes to disposable or “single-use” plastics. These items are designed for the short-term use in our human spaces, but will last in the environment for decades. One way to reduce single-use plastic use is to increase awareness of the issue in our homes, schools and communities.

For this challenge, you will complete a “plastics audit” to study how much and which types of plastics you use. An audit is used to examine and evaluate something in an unbiased way. (Typically audits are performed on companies to track their financials or inventory.) In this plastics audit you will be evaluating the plastics you use and the plastic waste you produce. To do this you will spend one day tracking your household plastic use and waste in the provided activity data sheet. To reduce bias in the audit, try not to make changes from your typical behavior when you perform your audit. (For example, if you always drink a bottle of water at bed time, don’t change your behavior just for the audit.)

After the audit, follow along on the activity sheet to add up, extrapolate and graph your data. If you are able to, you can compare your results with your classmates. Then, in 1-3 paragraphs,

explain the findings of your audit along with any other information that you found interesting. Were you surprised by the results of your audit? What types of plastics did you use the most? How did you dispose of the plastics? Some plastics claim to be recyclable. Does your municipality's recycling program accept these? What happens to these plastics when they are sent away in recycling?

Finally, develop a mini action project based on your results. How can your project help reduce the amount of plastic you use at home and/or spread awareness to others at school and in your community?

Come up with your own mini action project idea or try one of the ideas below:

- A catchy 8 ½ * 11" poster (made digitally or by hand) sharing an impact that plastic waste can have on the environment.
- A letter or email to a government representative urging them to support legislature limiting single-use plastics.
- A speech to your fellow classmates at a school assembly on plastic use.
- A collage or sculpture of plastic waste from your audit, demonstrating the amount of plastic we throw away. (For digital submissions you are invited to send photographs of the project.)
- A series of photographs of plastic objects, showing the pervasiveness of plastics.

Note: *Because state-wide school closures are affecting schools differently, we have decided that this challenge will not be judged. Instead, 200 points will be awarded to each school that completes this challenge.*

Resources: The following list of online resources may be used when preparing your entry:

- [Allegheny County Recycling and Waste Collection](#)
- [Calder Kamin](#)
- [Monterey Bay Aquarium: Plastic use audit](#)
- The New York Times: [Take One Last Look at the \(Many\) Plastic Bags of New York](#)
- [Pennsylvania General Assembly Find Your Legislator](#)
- [Pennsylvania Resource Council](#)
- [Pittsburgh Pennsylvania Residential Recycling](#)
- [Project Vortex](#)
- [Washed Ashore](#)

Entry Requirements: There is no limit to the number of students that may participate for each school. Each student should submit one of each of the following: data sheet, graph, essay and mini action project. Projects should be labeled with the school and student's names. Schools may decide if they would like to collect individual student entries to submit to Phipps

all together or if they would like students to send their projects directly to Phipps. To receive points for the challenge, each school should submit one entry form.

Entries may be submitted to Phipps' high school program via email at ejohns@phipps.conservatory.org

Or via mail at
Phipps Conservatory and Botanical Gardens
One Schenley Park
Pittsburgh, PA 15213
Attn: Phipps Fairchild Challenge

School Submits: Challenge Entry Form and an unlimited number of student plastics audit projects (each containing completed data sheet, graph, essay and mini action project)