



Fairchild Challenge at Phipps

2016-2017 Middle School Challenges In-Depth

Challenge 1: Observation and Identification

“Nature Journal”

For Individuals or Groups | Maximum points: 200 (1 book)

Due at Phipps: Friday, Oct. 21, 2016

Your Challenge: Humans pass by trees and plants every day. Unfortunately, our busy lives make it hard for us to take time to appreciate all of the natural beauty that surrounds us. This has often been coined “plant blindness.” For this challenge, we want you to take a walk in nature and observe the various leaves, seeds, and flowers that you pass. Pick a few that interest you and either draw them or take photographs.

Identify these plants and/or trees back at home or school. Use these photos and drawings to create a nature ID book that includes the common name, scientific name, and an interesting fact about each plant. Up to 20 plants/trees may be identified in the book. We encourage you to include as many students as possible in this project. Note that the plants/trees do not have to be native, but must grow in our region.

Entry Details:

- One book with up to 20 plants/trees identified and described. You may identify more than one plant on each page. The book should not exceed 20 pages.
- 5 points will be awarded for each correct identification.
- Points awarded to entries that include multiple students.
- Each description should include the author’s name.
- One original illustration is required as cover art. Multiple illustrations are welcome, but not required.

Resources:

- PA Common Trees: <http://dcnr.state.pa.us/forestry/plants/commontrees/index.htm>
- PA Native Plants: <http://www.dcnr.state.pa.us/forestry/plants/nativeplants/>

School Submits: Challenge Entry Form, one book with up to 20 plants/trees identified.

Challenge 2: Creation and Design

“Eco App”

For individuals or groups | Maximum Points: 200

Due at Phipps: Friday, Nov. 18, 2016

Your Challenge: Smartphone applications have given humans access to a wealth of information and tools right at our fingertips. From your cell phone, you can now Instagram a photo, check the weather, track your steps, and submit a payment. In many ways, cell phones have made life easier. However, with so many forms of entertainment and information on our cell phones, humans are spending more time looking at screens and less time appreciating our surroundings. Is there a way to amend this? Can cell phones be used to connect people to nature or encourage healthier lifestyles? Your challenge is to come up with an app concept that meets at least one of the following objectives:

- 1) Connects people to nature
- 2) Encourages healthier lifestyles
- 3) Exposes people to current environmental issues

Note that the entry does not have to be an actual app, but rather a design concept. Pretend that you are preparing a pitch to a big tech company. Your design concept should include the app’s name, purpose, features, and layout. Please also include an advertisement for your app that would motivate consumers to give it a try. Be creative with how you present the app. Posters and papers are welcome, but you are not limited to these formats. Show us why your app concept is original, user friendly, and effective.

Entry Details

- 1) A design concept that includes:
 - A name for the app.
 - A 1-2 page description of the app’s purpose and how it will meet one or more of the above objectives. This should be double spaced, using 12 point font.
 - A visual which provides an idea of what the app’s layout will look like.
- 2) Please provide evidence of the app’s originality. Show us that you did your research and you came up with a new concept.
- 3) An advertisement that will encourage people to use the app.

School submits: Challenge Entry Form, one app concept, and an advertisement.

Challenge 3: Visual Art

“Beneficial Bugs”

For individuals | Maximum Points: 200 (100/drawing)

Due at Phipps: Friday, Jan. 27, 2017

Your Challenge: In the plant world, insects are often thought of as pests. However, many insects are actually beneficial to plants. Entomologists have found that beneficial insects can control a pest problem and reduce the need for routine pesticide application.

Your job is to research insects that are beneficial to plants and then depict both the bug and a plant in a painting or drawing. On the back of your artwork, please include the name of both the insect and the plant along with a brief description of how the insect benefits the plant. *A selection of entries will be displayed in the Center for Sustainable Landscapes during spring 2017.*

Entry Details:

- Create an original, two-dimensional drawing or painting depicting a plant and a beneficial insect. On the back of your drawing, please include your name and school.
- On an attached sheet of paper, please include your name and school, the scientific and common names for both the plant and the insect, and a brief description of how the insect benefits the depicted plant.
- Picture size: 8.5” x 11” or 16” x 20”

School Submits: Challenge Entry Form, up to two drawings.

Challenge 4: Writing

“Environmental News”

For individuals | Maximum Points: 200 (100/opinion piece)

Due at Phipps: Friday, Feb. 24, 2017

Your Challenge: We often hear and see various reports in the news about current environmental topics, but sometimes it is hard to take the time to truly understand what is being discussed. Take a current article from the news and write an opinion piece on it. Think about current environmental events broadly. The subjects can range in topics such as food, agriculture, the built environment, water, air, flora and fauna, climate change, etc. The article of your choice can span local, national, or international news, but you may find that the topic is relevant on all levels.

Entry Details:

- Find an article in the paper or online that relates to a current environmental issue. Research more about the topic, collect your thoughts, and develop an opinion. Put these thought and opinions on paper.

- Opinion pieces are traditionally short and concise. Your entry should be one to two pages, double-spaced, using 12 point font.
- Attached to your opinion piece, please include the original article and a works cited that lists your research sources.
- You will be judged on the quality of your research and writing – not on your opinions!
- Please attach the original article to your opinion piece.
- *5 bonus points:* Submit your opinion piece to a local paper (print a copy of the email for evidence).

School Submits: Challenge Entry Form, up to two opinion pieces with attached works cited.

Optional Challenge: Video

“Climate Change Hero”

Note: Entries will be considered for the Patti Burns Prize for Excellence in Communication and Media, but will not be awarded points towards the 2016-2017 Fairchild Challenge.

Due at Phipps: Friday, March 24, 2017, or any time before this date.

Your Challenge: Create a video that tells the story of an individual, organization, or community in the greater Pittsburgh area that is working on heroic solutions to climate change. The video should explain what climate change is, why people should take action to address this issue, and what your “Climate Change Hero” of choice is doing to help solve the problem.

The first place school for this challenge will be awarded The Patti Burns Prize for Excellence in Communication and Media. This \$250 award will be presented at the Awards Ceremony in May 2017.

Entry Details:

- Create a video that: 1) explains the science behind climate change, 2) discusses why individuals should take action, and 3) shares the story of a local individual, community, or organization working to take action to reduce the potential problems associated with climate change.
- Video should be two to four minutes in length.
- Video should be uploaded to YouTube or flash drive and then shared with the Fairchild Challenge program coordinator.
- A panel of local professionals will select the top videos based on accuracy, quality, and engagement. Once these videos are chosen, we will make them available for a public vote. Once the voting period is complete, the Middle School Program Coordinator will announce the first, second, and third place winners. As stated above, the first place winners will be awarded prize money at the Fairchild Challenge Awards Ceremony. The top three videos will also be screened at the ceremony.

School Submits: Challenge Entry Form, one video per team. Schools may have multiple entries, but teams must be different. Individual students should not contribute to more than one video.

Challenge 5: Environmental Action

“Home, School, or Community”

For individuals or groups | Maximum points: 300

Due at Phipps: Friday, April 28, 2017

Your Challenge: Even small and simple environmental initiatives can effect great change. For this challenge, you are asked to initiate, implement, and sustain an activity or activities that promote environmental awareness and conservation within **one** of the three following targets areas: home, school, or community.

Entry Details:

- Create a trifold display or written report that documents your school’s efforts to promote environmental awareness and conservation in one out of three areas: within students’ homes, throughout the school, or across the community.
- Please attach a list of the students and/or classes involved in the project.
- Limit report to a maximum of five double-sided or 10 single-sided 8.5” x 11” pages.

Additional Information: For this challenge, one or multiple environmental action projects done throughout the school year are encouraged. Ideally, this challenge should become an all-school effort, engaging as much of the student body as possible. While creative and original ideas for projects are welcome, we have also provided some optional examples below.

Suggested Projects

Home:

- Perform a home energy audit and make changes based on your findings.
- Set a recycling goal for your household.
- Educate and encourage your family to become responsible purchasers and consumers.
- Encourage your family to have one sustainable (ie., meat-free, locally grown) meal each week.
- Create a Western PA-friendly habitat in your backyard that invites wildlife and minimizes environmental impact.

School:

- Host an environmental documentary at school and donate proceeds to an environmental organization.
- Have a school grounds clean up, recycling and/or disposing of materials properly.
- Devise a plan to reduce waste at your school involving recycling as appropriate.
- Perform an energy audit at your school and present a plan for improvement to your school board.
- Create a mentoring program where older students can educate younger students about environmental issues.

- Post environmental tips and reminders on posters in visible locations at school.
- Encourage your kitchen and maintenance staff to use environmentally friendly products.
- Host an educational Earth Day event at school.
- “Green” your prom by incorporating sustainable practices into your event.
- Conduct a biodiversity inventory of your school grounds, including plants, birds, butterflies, and others.

Community:

- Volunteer with a local environmental organization.
- Participate in an environmental organization’s work project on Earth Day.
- Assist with environmental education or initiatives at a local community center.
- Host a fundraiser and donate money to an environmental cause.
- Write letters about your environmental concerns to local politicians.
- Participate in a citizen science project.

School Submits: Challenge Entry Form, one trifold or report.