



# Green Teens CHALLENGE

2023-2024



Presented by



**Civic  
Garden  
Center**

*greater cincinnati*



*This page intentionally left blank.*





## Overview

The Green Teens Challenge gives students and teachers a foundation from which they can explore creative solutions to today's climate crisis. This multidisciplinary competition is designed to engage students of every ability, skill and interest level in aspects of urban agriculture and environmental sustainability. As they investigate complex local and global environmental issues, they are empowered to become change makers in their communities.

Throughout the school year, students participate in monthly challenges that align to Greater Cincinnati's local seasonality and academic standards. Winners of each challenge are awarded prizes from our sponsors, and the school who accumulates the most points by the end of the school year will be awarded \$1,000 to further their environmental education initiatives.

For more information, updates and additional resources, please see <https://civicgardencenter.org/green-teens-challenge/> and email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

## Resources

Participating schools receive:

- The Green Teens Handbook, which includes information about each month's theme and challenges as well as individual rubrics for each challenge submission
- Access to our network of green industry professionals and resources
- Curated links with additional help, tips and information
- Free monthly programming focused on content related to the challenges
- Connection with other teachers in local schools
- A chance to win \$1,000 for your school's environmental initiatives

## Ready to Play?

Email the Green Teens Challenge team at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org) to plan out your school's participation. Welcome aboard!



*This page intentionally left blank.*





# Green Teens CHALLENGE

## 2023-24 Challenge at a Glance

### August: Register

In August, get registered for the challenge! Email [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org) to get started.

### September: Seeds of Hope

1. Tree Field Guide
2. Seed Starting 101
3. Letters to Local Politicians

### October: Tools & Tech

4. Hydroponics
5. Solar Oven
6. Natural Plant Dyes
7. Tool Care Demonstration Video

### November: Healthy Harvest

8. Seed Collecting & Storing
9. Local Food Map
10. Local Food Cooking Demonstration Video
11. Community Celebration with Shared Meal

### December: Acts of Kindness

12. Give Back Event
13. Natural Gifts

### January: Sustainable Cycles

14. Compost
15. Waste Audit
16. Upcycling
17. Natural Cleaning

### February: Water for Life

18. Seed & Water Experiment
19. Local Water Quality Assessment
20. Rainwater Harvesting
21. Deadly Water Bottles Public Service Announcement

### March: Pollinator Pals

22. Wildflower Field Guide
23. Pollinator Production

### April: Shout It Out

24. Transform Your Community
25. Budding Naturalist
26. Celebratory Newsletter

### May: Celebrate!

In May, there will be no challenges. We will welcome all participating schools to the Civic Garden Center for an awards ceremony on May 14 from 3:30 to 5pm.



*This page intentionally left blank.*



# Standards Alignment

## Challenge #1: Tree Field Guide

- **Meets these ELA standards:** W.9-10.7, W.11-12.7, W.9-10.8, W.11-12.8, SL.9-10.5, SL.11-12.5, RH.9-10.1, RH.9-10.2, RH.11-12.2, WHST.9-10.9, WHST.11-12.9

## Challenge #2: Seed Starting 101

- **Meets these ELA standards:** W.9-10.7, W.11-12.7, WHST.9-10.2, WHST.11-12.2, WHST.9-10.9, WHST.11-12.9, RST.11-12.8, RST.11-12.9
- **Meets these Math standards:** S.ID.1, S.IC.5, MP.2, MP.4
- **Meets these Science standards:** HS-ETS1-3

## Challenge #3: Letters to Local Politicians

- **Meets these ELA standards:** W.9-10.1, W.11-12.1, W.9-10.5, W.11-12.5, L.9-10.3, L.11-12.3, WHST.9-10.5, WHST.11-12.5, WHST.9-10.9, WHST.11-12.9, L.9-10.3, L.11-12.3, L.9-10.2, L.11-12.2, RST.11-12.8, RST.11-12.9
- **Meets these Math standards:** MP.2, MP.4
- **Meets these Science standards:** HS-ETS1-2, HS-ETS1-3

## Challenge #4: Hydroponics

- **Meets these ELA standards:** RST.11-12.7, RST.11-12.8, RST.11-12.9, RST.9-10.8, WHST.9-12.7, W.9-10.7, W.11-12.7, RH.9-10.1, RH.9-10.2, RH.11-12.2, WHST.9-10.9, WHST.11-12.9
- **Meets these Math standards:** MP.2, MP.4
- **Meets these Science standards:** HS-ETS1-2, HS-ETS1-3, HS-LS2-7, HS-ESS3-3

## Challenge #5: Solar Oven

- **Meets these ELA standards:** RST.11-12.7, RST.11-12.8, RST.11-12.9, WHST.9-10.7, RST.9-10.8, WHST.9-12.7, RST.11-12.1, RH.9-10.3, WHST.9-10.9, WHST.11-12.9
- **Meets these Math standards:** MP.2, MP.4, HSN-Q.A.1, HSN-Q.A.2, HSN-Q.A.3
- **Meets these Science standards:** HS-ETS1-2, HS-ETS1-3, HS-PS3-3, HS-LS2-7, HS-ESS3-2, HS-ESS3-4

## Challenge #6: Natural Plant Dyes

- **Meets these ELA standards:** RST.9-10.8, RST.11-12.7, WHST.9-12.7, L.9-10.3, L.11-12.3, RH.9-10.3, WHST.9-10.9, WHST.11-12.9, RST.11-12.7, RST.11-12.8, RST.11-12.9
- **Meets these Math standards:** MP.2, MP.4
- **Meets these Science standards:** HS-LS2-7, HS-ETS1-2

## Challenge #7: Tool Care Demonstration Video

- **Meets these ELA standards:** SL.9-10.5, SL.11-12.5, RH.9-10.3, WHST.9-10.2, WHST.11-12.2, WHST.9-10.9, WHST.11-12.9



### **Challenge #8: Seed Collecting & Storing**

- **Meets these ELA standards:** L.9-10.3, L.11-12.3, WHST.9-10.9, WHST.11-12.9, RST.11-12.7, RST.11-12.8, RST.11-12.9
- **Meets these Math standards:** MP.2, MP.4
- **Meets these Science standards:** HS-ETS1-2

### **Challenge #9: Local Food Map**

- **Meets these ELA standards:** W.9-10.7, W.11-12.7, SL.9-10.5, SL.11-12.5, L.9-10.2, L.11-12.2, L.9-10.3, L.11-12.3, WHST.9-10.9, WHST.11-12.9
- **Meets these Math standards:** S.ID.1

### **Challenge #10: Local Food Cooking Demonstration Video**

- **Meets these ELA standards:** SL.9-10.5, SL.11-12.5, WHST.9-10.2, WHST.11-12.2

### **Challenge #12: Give Back Event**

- **Meets these ELA standards:** SL.9-10.1b, SL.11-12.1b

### **Challenge #13: Natural Gifts**

- **Meets these ELA standards:** RST.11-12.7, RST.11-12.8, RST.11-12.9
- **Meets these Math standards:** MP.2, MP.4
- **Meets these Science standards:** HS-ETS1-2

### **Challenge #14: Compost**

- **Meets these ELA standards:** RST.11-12.7, RST.11-12.8, RST.11-12.9, RST.9-10.8, WHST.9-12.7, RST.11-12.1, RH.9-10.1, RH.9-10.2, RH.11-12.2, WHST.9-10.9, WHST.11-12.9
- **Meets these Math standards:** MP.2, MP.4, HSN-Q.A.1, HSN-Q.A.2, HSN-Q.A.3
- **Meets these Science standards:** HS-ETS1-2, HS-ETS1-3, HS-LS2-7, HS-ESS3-4.

### **Challenge #15: Waste Audit**

- **Meets these ELA standards:** RH.9-10.3, WHST.9-10.9, WHST.11-12.9

### **Challenge #16: Upcycling**

- **Meets these ELA standards:** RST.11-12.1, RST.11-12.8, WHST.9-10.5, WHST.11-12.5, WHST.9-10.9, WHST.11-12.9
- **Meets these Math standards:** MP.2, MP.4, HSN-Q.A.1, HSN-Q.A.2, HSN-Q.A.3
- **Meets these Science standards:** HS-ESS3-4

### **Challenge #17: Natural Cleaning**

- **Meets these ELA standards:** RH.9-10.3, WHST.9-10.2, WHST.11-12.2, WHST.9-10.9, WHST.11-12.9, RST.11-12.7, RST.11-12.8, RST.11-12.9
- **Meets these Math standards:** MP.2, MP.4
- **Meets these Science standards:** HS-ETS1-2





### **Challenge #18: Seed & Water Experiment**

- **Meets these ELA standards:** RST.11-12.8, WHST.9-12.9, W.9-10.7, W.11-12.7, W.9-10.8, W.11-12.8, RH.11-12.9, WHST.9-10.2, WHST.11-12.2, WHST.9-10.9, WHST.11-12.9
- **Meets these Math standards:** MP.2, MP.4, HSN-Q.A.2, F.IF.4
- **Meets these Science standards:** HS-LS4-5

### **Challenge #19: Local Water Quality Assessment**

- **Meets these ELA standards:** RH.9-10.3, RH.9-10.7, WHST.9-10.9, WHST.11-12.9
- **Meets these Math standards:** HSN-Q.A.3, N.Q.2
- **Meets these Science standards:** HS-ESS2-5

### **Challenge #20: Rainwater Harvesting**

- **Meets these ELA standards:** RST.11-12.7, RST.11-12.8, RST.11-12.9, RST.11-12.1, WHST.9-10.9, WHST.11-12.9
- **Meets these Math standards:** MP.2, MP.4, HSN-Q.A.1, HSN-Q.A.2, HSN-Q.A.3, G.GMD.3, G.MG.1
- **Meets these Science standards:** HS-ETSI-2, HS-ETSI-3, HS-ESS3-4

### **Challenge #21: Deadly Water Bottles Public Service Announcement**

- **Meets these ELA standards:** W.9-10.2, W.11-12.2, W.9-10.6, W.11-12.6, W.9-10.8, W.11-12.8, SL.9-10.5, SL.11-12.5, L.9-10.3, L.11-12.3, WHST.9-10.5, WHST.11-12.5, WHST.9-10.6, WHST.11-12.6, WHST.9-10.9, WHST.11-12.9

### **Challenge #22: Wildflower Field Guide**

- **Meets these ELA standards:** W.9-10.7, W.11-12.7, W.9-10.8, W.11-12.8, L.9-10.3, L.11-12.3, RH.9-10.1, RH.9-10.2, RH.11-12.2, WHST.9-10.8, WHST.11-12.8, WHST.9-10.9, WHST.11-12.9

### **Challenge #23: Pollinator Production**

- **Meets these ELA standards:** SL.9-10.5, SL.11-12.5, L.9-10.3, L.11-12.3, RH.9-10.1, RH.9-10.2, RH.11-12.2, RH.11-12.9, WHST.9-10.9, WHST.11-12.9

### **Challenge #24: Transform Your Community**

- **Meets this ELA standard:** SL.9-10.1b

### **Challenge #25: Budding Naturalist**

- **Meets these ELA standards:** W.9-10.3, W.11-12.3, W.9-10.5, W.11-12.5, SL.9-10.5, SL.11-12.5, WHST.9-10.5, WHST.11-12.5

### **Challenge #26: Celebratory Newsletter**

- **Meets these ELA standards:** W.9-10.3, W.11-12.3, W.9-10.5, W.11-12.5, W.9-10.6, W.11-12.6, SL.9-10.5, SL.11-12.5, L.9-10.2, L.11-12.2, WHST.9-10.5, WHST.11-12.5, WHST.9-10.6, WHST.11-12.6, L.9-10.2, L.11-12.2



*This page intentionally left blank.*





# September Theme: Seeds of Hope

*Due Date: September 29, 2023*

## **Challenge #1: Tree Field Guide**

In order for us to best manage natural spaces, we must first know what plants are growing. Your challenge is to create your own Tree Field Guide by cataloging trees growing in your local community.

## **Challenge #2: Seed Starting 101**

Learning to start your own seeds is a necessary practice for self sustainability and forest management. Your challenge is to start several different types of seeds, research and document the requirements to ensure success.

## **Challenge #3: Letters to Local Politicians**

When we make our voices heard to advocate for positive change, we contribute to a better future for all. Your challenge is to identify a policy, ordinance, law or issue that you want to change and write a letter to a local politician with your ideas on how to resolve it.

**“Don’t judge each day by the harvest you reap  
but by the seed you plant.”**

*~ Robert Louis Stevenson*



*This page intentionally left blank.*



# Challenge #1: Tree Field Guide

## *September*

### Description

In order for us to best manage natural spaces, we must first know what plants are growing. Your challenge is to create your own Tree Field Guide by cataloging trees growing in your local community. Once the tree has been identified, further research should be conducted to learn more about it. Having an idea of what trees are currently growing also provides information about what trees are missing from the landscape and why. Check out Challenge #2: Seed Starting 101 to learn how you can bring missing trees back!



### Resources

A list of suggested apps and books can be found at <https://civiggardencenter.org/greenteens-challenge>, and further resources are available by emailing us at [greenteens@civiggardencenter.org](mailto:greenteens@civiggardencenter.org).

### Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #1.
- Step 2:** Gather identification materials, such as the apps and identification books suggested above.
- Step 3:** Go on a walk! Once you find a tree, try identifying it.
- Step 4:** Take pictures (see “ID Page Images” in the rubric for ideas).
- Step 5:** After your initial identification, further research each tree found.
- Step 6:** Write a description for each tree based on your research. Descriptions should be original and include references. Plagiarism will not be tolerated.
- Step 7:** Combine all information and photos into a book.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to ensure you have met elements in the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #1: Tree Field Guide Rubric

	Full Points	Half Points	No Points
<b>Number of Trees Documented</b>	Five different trees are documented	Four different trees are documented	Fewer than four different trees are documented
<b>ID Page</b>	Each identification is accompanied by an original paragraph with the common and scientific name, description of the native range, and other facts about the tree. Citations are clearly written.	Identification pages are missing one component from Full Points column	Identification pages are missing more than one component from Full Points column
<b>ID Page Images</b>	Each ID page includes two close up <b>original</b> images: (photograph or hand drawn) of leaves, seeds, and/or bark	One ID page is missing one image	Images are missing from two or more pages or images are not original (e.g., taken from Internet)
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of September 29		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### **Standards Alignment**

- **Meets these ELA standards:** W.9-10.7, W.11-12.7, W.9-10.8, W.11-12.8, SL.9-10.5, SL.11-12.5, RH.9-10.1, RH.9-10.2, RH.11-12.2, WHST.9-10.9, WHST.11-12.9

# Challenge #2: Seed Starting 101

## *September*

### Description

Learning to start your own seeds is a necessary practice for self sustainability and forest management. Every seed has slightly different requirements that need to be met to ensure germination and the success of the newly sprouted plant. Starting plants from seed can be a more affordable way to support school gardens and forest restoration projects. Your challenge is to research and start different types of seeds and report the process to ensure their success. Seeds started can be vegetables, flowers, trees, etc.



### Resources

If you are in need of seeds, ideas of what to start or additional support, please reach out by emailing us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

### Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #2.
- Step 2:** Research the seeds you are starting and gather requirements. Use resources such as the Internet and the seed packets.
- Step 3:** For each seed, create your own document with the step-by-step procedure that summarizes planting information for each seed you chose.
- Step 4:** Create a watering schedule for your seeds.
- Step 5:** Plant seeds.
- Step 6:** Follow the watering schedule and document your germination with photos.
- Step 7:** Caption photos with a description of what type of seed is germinating and how well it is growing.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to ensure you have met all the requirements listed in the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #2: Seed Starting 101 Rubric

	Full Points	Half Points	No Points
<b>Number of Seed Varieties</b>	Five seed varieties are planted	Four seed varieties are planted	Fewer than four seed varieties are planted
<b>Planting Procedure</b>	Every seed variety is paired with an accurate procedure and necessary planting requirements (soil, water, light, etc.)	One seed variety is missing an accurate procedure and necessary planting requirements (soil, water, light, etc.)	More than one seed variety is missing a procedure and/or planting requirements are not identified
<b>Photo Documentation</b>	Every seed variety is paired with captioned photos	One seed variety is missing captioned photos	More than one seed variety is missing photos
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of September 29		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### Standards Alignment

- **Meets these ELA standards:** W.9-10.7, W.11-12.7, WHST.9-10.2, WHST.11-12.2, WHST.9-10.9, WHST.11-12.9, RST.11-12.8, RST.11-12.9
- **Meets these Math standards:** S.ID.1, S.IC.5, MP.2, MP.4
- **Meets these Science standards:** HS-ETS1-3



# Challenge #3:

## Letters to Local Politicians

### *September*

#### Description

Making your voice heard is important. As we advocate for positive change, we are contributing to a better future for all. Your challenge is to identify a policy, ordinance, law or issue that you want to change and write a letter to a local council member, mayor, governor, etc. with your ideas on how to resolve it. Letters should be concise yet thorough in explaining the issue, your stance, and possible solutions (see the rubric on the next page for details).



#### Resources

Find resources for writing to local politicians and using APA format at <https://civiggardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civiggardencenter.org](mailto:greenteens@civiggardencenter.org).

#### Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #3.
- Step 2:** Research what issue you plan to write about and decide which official you intend to send it to.
- Step 3:** Review formatting documents and links with advice on how to write to officials (located in the description above).
- Step 4:** Write your first draft.
- Step 5:** Have a friend or teacher review your draft.
- Step 6:** Make necessary edits.
- Step 7:** Finalize your and letter make two copies: one to submit and one to mail to your chosen official.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

### Challenge #3: Letters to Local Politicians Rubric

	Full Points	Half Points	No Points
<b>Letter Format</b>	Single page using APA format	More than one page or some aspects of APA format are not followed	More than one page and APA format is not followed
<b>Letter Components</b>	Letter states your name, identifies issue clearly, provides evidence, supporting claims, includes closing statement and signature	Letter is missing one or two components listed in the Full Points column	Letter is missing three or more components listed in the Full Points column
<b>Grammar</b>	Letter is free of grammatical errors and properly addressed to the intended recipient	Letter has no grammatical errors but is not properly addressed to the intended recipient	Letter has grammatical errors
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of September 29		Challenge was not submitted by due date

### Did you...

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### Standards Alignment

- **Meets these ELA standards:** W.9-10.1, W.11-12.1, W.9-10.5, W.11-12.5, L.9-10.3, L.11-12.3, WHST.9-10.5, WHST.11-12.5, WHST.9-10.9, WHST.11-12.9, L.9-10.3, L.11-12.3, L.9-10.2, L.11-12.2, RST.11-12.8, RST.11-12.9
- **Meets these Math standards:** MP.2, MP.4
- **Meets these Science standards:** HS-ETS1-2, HS-ETS1-3



# Green Teens CHALLENGE

## October Theme: Tools & Tech

*Due Date: October 31, 2023*

### **Challenge #4: Hydroponics**

Your challenge is to develop a growing system that doesn't require large amounts of land or landscaping tools. Each hydroponic system should include a list of supplies and procedures and a short description of why this system is effective for urban farmers.

### **Challenge #5: Solar Oven**

Your challenge is to build a solar powered oven from which you can warm up food without the use of polluting fossil fuels. Each solar oven should include a list of supplies and procedures and a short description of why this oven is an effective way to use renewable energy.

### **Challenge #6: Natural Plant Dyes**

Fast Fashion has a severe negative environmental impact. Your challenge is to research and identify plants in your local environment that can be used to naturally dye articles of clothing. Once research is conducted, your submission should also include the final products created from the natural dyeing process.

### **Challenge #7: Tool Care Demonstration Video**

Prolonging the use of the items we purchase is an essential component of a sustainable lifestyle. Your challenge is to record yourself maintaining horticultural, landscape and/or culinary tools. Each video should be engaging and appropriate for an audience of all ages with an emphasis on safety considerations.

**"I like to envision the world as a jigsaw puzzle...if you look at the whole picture, it is overwhelming and terrifying, but if you work on your little part of the jigsaw and know that people all over the world are working on their little bits, that's what will give you hope."**

*~ Jane Goodall*



Building Community through Gardening, Education & Environmental Stewardship  
513.221.0981 | [www.civicgardencenter.org](http://www.civicgardencenter.org) | [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org)

*This page intentionally left blank.*



# Challenge #4: Hydroponics

*October*

## Description

Your challenge is to develop a growing system that doesn't require large amounts of land or landscaping tools. You should take time to research hydroponic growing systems and develop one that is capable of producing healthy food ingredients. Each hydroponic system should include a list of supplies and procedures and a short description of why this system is effective for urban farmers (see the rubric on the next page for details).



## Resources

For inspiration and ideas, see <https://civicgardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

## Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #4.
- Step 2:** Research different kinds of hydroponic systems. You can start with our suggested resources via the link above!
- Step 3:** Create a design for the system. If you would like a consultation, please reach out to the Green Teens team at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).
- Step 4:** Gather materials necessary for the build and what seeds you will be planting.
- Step 5:** Build the system and plant seeds.
- Step 6:** Take photos of your system and use captions to describe what you did and what seeds are planted.
- Step 7:** Combine all information and photos into a single document.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #4: Hydroponics Rubric

	Full Points	Half Points	No Points
<b>System Specifications</b>	System is built to grow food without the use of soil and utilizes sustainable materials	System is built to grow food without the use of soil but doesn't use sustainable materials	System doesn't grow food without the use of soil or use sustainable materials
<b>System Components</b>	System includes elements to grow, nourish and maintain plants in a small space using minimal energy inputs	System includes elements to grow, nourish and maintain plants but takes up a large space or uses high amounts of energy	System includes elements to grow, nourish and maintain plants but takes up a large space and uses high amounts of energy or does not include all of the required elements
<b>System Effectiveness</b>	System is able to produce healthy food ingredients in a two-month time period or less	System is able to produce healthy food ingredients in a three-month time period or less	System is unable to produce healthy food ingredients in a three-month time period or less
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of October 31		Challenge was not submitted by due date

### Did you...

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### Standards Alignment

- **Meets these ELA standards:** RST.11-12.7, RST.11-12.8, RST.11-12.9, RST.9-10.8, WHST.9-12.7, W.9-10.7, W.11-12.7, RH.9-10.1, RH.9-10.2, RH.11-12.2, WHST.9-10.9, WHST.11-12.9
- **Meets these Math standards:** MP.2, MP.4
- **Meets these Science standards:** HS-ETSI-2, HS-ETS1-3, HS-LS2-7, HS-ESS3-3

# Challenge #5:

## Solar Oven

*October*

### Description

Your challenge is to build a solar-powered oven with which you can warm up food without the use of polluting fossil fuels. Each solar oven should include a list of supplies and procedures and a short description of why this oven is an effective way to use renewable energy (see the rubric on the next page for details).



### Resources

For inspiration and ideas, see <https://civicgardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

### Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #5.
- Step 2:** Research how to build a solar oven and try to think outside the box! Try and improve a design you find elsewhere!
- Step 3:** Create a design for the system. If you would like a consultation, please email the Green Teens team at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).
- Step 4:** Gather materials necessary for the build.
- Step 5:** Build and test your oven on a sunny day.
- Step 6:** Take photos of your oven and use captions to describe what you did. Make sure to get a picture of the thermometer during your test.
- Step 7:** Combine all information and photos into a single document.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #5: Solar Oven Rubric

	Full Points	Half Points	No Points
<b>Oven Specifications</b>	Oven is built to use only renewable energy as its power source and utilizes sustainable materials	Oven uses only renewable energy but is not constructed with sustainable materials	Oven doesn't utilize renewable energy or sustainable materials
<b>Oven Components</b>	Oven includes elements to capture, direct and hold solar radiation with a space to warm food	Oven includes elements to capture and hold solar radiation with a space to warm food	Oven is missing vital elements and/or doesn't have adequate space to warm food
<b>Oven Effectiveness</b>	Oven is able to warm food to an internal temperature of at least 250°F / 121°C	Oven is able to warm food to an internal temperature of at least 150°F / 65°C	Oven is missing a temperature reading
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of October 31		Challenge was not submitted by due date

### Did you...

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### Standards Alignment

- **Meets these ELA standards:** RST.11-12.7, RST.11-12.8, RST.11-12.9, WHST.9-10.7, RST.9-10.8, WHST.9-12.7, RST.11-12.1, RH.9-10.3, WHST.9-10.9, WHST.11-12.9
- **Meets these Math standards:** MP.2, MP.4, HSN-Q.A.1, HSN-Q.A.2, HSN-Q.A.3
- **Meets these Science standards:** HS-ETSI-2, HS-ETSI-3, HS-PS3-3, HS-LS2-7, HS-ESS3-2, HS-ESS3-4



# Challenge #6: Natural Plant Dyes

*October*

## Description

Fast Fashion has a severe negative environmental impact. Before the growth of the modern fashion industry, indigenous people found ways to add vibrancy to their clothing without harmful environmental impacts. Your challenge is to research and identify plants in your local environment that can be used to naturally dye articles of clothing. Once research is conducted, your submission should also include the final products created from the natural dyeing process.



## Resources

For inspiration and ideas, see <https://civicgardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

## Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #6.
- Step 2:** Research ideas on what plants are good candidates for the natural dyeing process. You might be surprised how many might be growing near you!
- Step 3:** Create a materials list and procedure for your dyeing project.
- Step 4:** Harvest or gather all materials. Remember to take a before, during and after picture.
- Step 5:** Dye!
- Step 6:** Take photos of the final product and use captions to describe what you did.
- Step 7:** Combine all information and photos into a single document.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the "Full Points" column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #6: Natural Plant Dyes Rubric

	Full Points	Half Points	No Points
<b>Research</b>	Materials list and procedure provided clearly demonstrate research and includes references	Submission is missing one component from the Full Points column (either incomplete list or no references)	Submission is significant information and/or research is unclear
<b>Collection</b>	At least two items used for dyeing were harvested or purchased locally; items and locations/sources are clearly labeled in the materials list	At least one item used for dyeing was harvested or purchased locally; it is clearly labeled in the materials list	No items used were harvested or purchased locally
<b>Photo Documentation</b>	Three photos of the dyeing process were submitted (one before, one during and one after)	One photo listed in the Full Points section was missing from the submission	Two or more of the photos listed in the Full Points section were missing from the submission
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of October 31		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### Standards Alignment

- **Meets these ELA standards:** RST.9-10.8, RST.11-12.7, WHST.9-12.7, L.9-10.3, L.11-12.3, RH.9-10.3, WHST.9-10.9, WHST.11-12.9, RST.11-12.7, RST.11-12.8, RST.11-12.9
- **Meets these Math standards:** MP.2, MP.4
- **Meets these Science standards:** HS-LS2-7, HS-ETS1-2

# Challenge #7: Tool Care Demonstration Video

## *October*

### Description

Your challenge is to record yourself maintaining horticultural, landscape and/or culinary tools such as shovels, lawn mowers, pruners, weed wackers, rakes, kitchen appliances, etc. Prolonging the use of the items we purchase is an essential component of a sustainable lifestyle. Each video should be engaging and appropriate for an audience of all ages with an emphasis on safety considerations (see the rubric on the next page for details).



### Resources

For inspiration and ideas, see <https://civicgardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

### Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #7.
- Step 2:** Determine what tools need care.
- Step 3:** Research what needs to be done to perform the necessary care.
- Step 4:** Gather materials necessary to perform the care. If you need to borrow materials, contact the Green Teens team at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).
- Step 5:** Practice the care procedures you are going to film. Draft a script of the main steps you want to communicate.
- Step 6:** Film your tool care video.
- Step 7:** Edit and add captions to video.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the Full Points categories.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #7: Tool Care Demonstration Video Rubric

	Full Points	Half Points	No Points
<b>Video Length</b>	Video is between five and nine minutes long	Video is between three and five minutes or more than nine minutes long	Video is under three minutes long
<b>Video Components</b>	Video includes a complete and accurate list of needed supplies and procedures	Video includes an incomplete list of needed supplies or procedures	Video is missing significant information regarding supplies and/or procedures
<b>Content Elements</b>	Demonstration focuses on common tools, emphasizes safety protocols and accurately conveys information needed to replicate the work	Demonstration focuses on common tools and emphasizes safety protocols but is missing one or two details required to replicate the work	Demonstration doesn't emphasize safety and is missing crucial information
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of October 31		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### **Standards Alignment**

- **Meets these ELA standards:** SL.9-10.5, SL.11-12.5, RH.9-10.3, WHST.9-10.2, WHST.11-12.2, WHST.9-10.9, WHST.11-12.9



# November Theme: Healthy Harvest

*Due Date: November 30, 2023*

## **Challenge #8: Seed Collecting & Storing**

The practice of collecting seeds is a sustainable way to continually grow plants at low cost. Seeds can be collected from fruit and vegetable plants, trees, wildflowers, etc. Your challenge is to properly collect and store seeds and document the process.

## **Challenge #9: Local Food Map**

Your challenge is to document where food is grown in the Cincinnati area and how you can access local food to purchase. Maps can be digital or hand drawn and each location should be accompanied by a description.

## **Challenge #10: Local Food Cooking Demonstration Video**

Your challenge is to record yourself creating a meal using local ingredients that are in season. Each video should be engaging and appropriate for an audience of all ages with an emphasis on safety considerations.

## **Challenge #11: Community Celebration with Shared Meal**

Your challenge is to build community with your neighbors as you share a meal. We seek to reframe the standard pizza and pop that is offered at most gatherings and include healthy, seasonal and locally grown foods.

**“Nature provides a free meal, only if we  
control our appetites.”**

*~ William Ruckelshaus*



*This page intentionally left blank.*



# Challenge #8:

## Seed Collecting & Storing

*November*

### Description

The practice of collecting seeds is a sustainable way to continually grow plants at low cost. Seeds can be collected from fruit and vegetable plants, trees, wildflowers, etc. If stored properly, some seeds can be viable for several years! The science of storing seeds is important for saving species that may be at risk of extinction. Your challenge is to properly collect and store seeds. Each seed type should be documented with the location it was collected from.



### Resources

Find our recommended resources at <https://civicgardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

### Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for the challenge and email us for our recommended seed list.
- Step 2:** Research when to collect seeds to ensure their maturity.
- Step 3:** Gather the materials necessary for collection.
- Step 4:** Determine what plants or trees you are going to collect from. Remember to take photos during the collection process and to document the location and how many seeds you collect.
- Step 5:** Once seeds are collected, research the best ways to store them.
- Step 6:** Store seeds.
- Step 7:** Record all materials used, procedures and photos into one document for submission.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #8: Seed Collecting & Storing Rubric

	Full Points	Half Points	No Points
<b>Number of Seed Varieties</b>	A minimum of five seed varieties were collected and stored	Four seed varieties were collected and stored	Fewer than four seed varieties were collected and stored
<b>Collecting &amp; Storing Procedure</b>	Every seed variety is paired with an accurate collecting procedure and necessary storage requirements	One seed variety is missing an accurate collecting procedure and/or necessary storage requirements	More than one seed variety is missing an accurate collecting procedure and/or necessary storage requirements
<b>Photo Documentation</b>	Every seed variety is paired with captioned photos	One seed variety is missing captioned photos	More than one seed variety is missing captioned photos
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of November 30		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civiggardencenter.org](mailto:greenteens@civiggardencenter.org))?

### Standards Alignment

- **Meets these ELA standards:** L.9-10.3, L.11-12.3, WHST.9-10.9, WHST.11-12.9, RST.11-12.7, RST.11-12.8, RST.11-12.9
- **Meets these Math standards:** MP.2, MP.4
- **Meets these Science standards:** HS-ETS1-2



# Challenge #9: Local Food Map

## *November*

### Description

Farms in the city? You bet! Your challenge is to document where food is grown in the Cincinnati area and where you can access local food to purchase. Maps should be accurate but also demonstrate artistic creativity. Maps can be digital or hand drawn and each location should be accompanied by a description (see the rubric on the next page for details).



### Resources

Find our recommended resources at <https://civicgardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

### Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #9.
- Step 2:** Research how to make a food map, check out the resource on our website!
- Step 3:** Research different local farms and markets.
- Step 4:** Select four of each to highlight on your map.
- Step 5:** Make sure they fall within twenty miles of your school.
- Step 6:** Write your descriptions for each selected farm and market.
- Step 7:** Create your map.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #9: Local Food Map Rubric

	Full Points	Half Points	No Points
<b>Map Parameters</b>	All locations on the map are within the 20 miles of your school	One location is farther than 20 miles from your school	More than one location is farther than 20 miles from your school
<b>Map Locations</b>	Map includes a minimum of four farms and four markets locations (eight total)	Map includes only three farms and/or three market locations (six total)	Map includes fewer than three farms and/or three markets locations (five or less)
<b>Map Descriptions</b>	Each of the farm/market location is accompanied by a three sentence description of what seasonal food can be purchased	Descriptions are less than three sentences and/or are not grammatically correct	One or more locations are not accompanied by a description
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of November 30		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### Standards Alignment

- **Meets these ELA standards:** W.9-10.7, W.11-12.7, SL.9-10.5, SL.11-12.5, L.9-10.2, L.11-12.2, L.9-10.3, L.11-12.3, WHST.9-10.9, WHST.11-12.9
- **Meets these Math standards:** S.ID.1

# Challenge #10:

## Local Food Cooking Demonstration Video

*November*

### Description

Ready, camera, ACTION! Your challenge is to record yourself creating a meal using local ingredients that are in season. Not all ingredients are required to be sourced from local growers, but an emphasis on seasonally available produce is preferred. Each video should be engaging and appropriate for an audience of all ages with an emphasis on safety considerations (see the rubric on the next page for details).



### Resources

For inspiration and ideas, see <https://civiggardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civiggardencenter.org](mailto:greenteens@civiggardencenter.org).

### Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #10.
- Step 2:** Determine what recipe you want to make by looking at what is in season (email us for a list of resources).
- Step 3:** Determine or research where you are going to get your ingredients from (refer to the Challenge #9 Local Food Map).
- Step 4:** Gather the ingredients, cooking equipment and safety ware.
- Step 5:** Practice what you plan on sharing in your video. Draft a script.
- Step 6:** Film your cooking demo video.
- Step 7:** Edit video. Compile list of ingredients/cooking equipment/safety ware needed to make the recipe to be included in your submission.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #10: Local Food Cooking Demonstration Video Rubric

	Full Points	Half Points	No Points
<b>Video Length</b>	Video is between five and nine minutes long	Video is between three and five minutes or more than nine minutes long	Video is under three minutes long
<b>Video Components</b>	Video description includes a complete and accurate list of ingredients and equipment needed to make the meal	Video includes an incomplete list of needed supplies or procedures	Video is missing significant information regarding ingredients or equipment
<b>Content Elements</b>	Demonstration focuses on food that is seasonal, emphasizes safety protocols and accurately conveys information needed to replicate the meal	Demonstration focuses on food that is seasonal and emphasizes safety protocols but is missing one or two small details required to replicate the meal	Cooking demonstration doesn't focus on seasonal food or doesn't emphasize safety; meals cannot be replicated due to missing information
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of November 30		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### Standards Alignment

- **Meets these ELA standards:** SL.9-10.5, SL. 11-12.5, WHST.9-10.2, WHST.11-12.2

# Challenge #11: Community Celebration with Shared Meal

*November*

## Description

There is no better way to build community than with a shared meal. In this challenge you will plan an event with your friends and family to celebrate the harvest and each other! Your challenge is to build community with your neighbors as you share a meal. You are encouraged to work in a group to plan and execute the event. We seek to reframe the standard pizza and pop that is offered at most gatherings and include healthy, seasonal and locally grown foods (see the rubric on the next page for details).



## Resources

For more information about what constitutes seasonal food and where to purchase locally grown produce, see <https://civicgardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

## Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #11.
- Step 2:** Set a date for the community celebration meal.
- Step 3:** Decide what you will be cooked for the meal.
- Step 4:** Invite community members, other clubs, classes, teachers, etc. to your celebration.
- Step 5:** Do your best to locally source your ingredients (see Challenge #9: Local Food Map for details).
- Step 6:** Host your celebration! Remember to take photos!
- Step 7:** Write your reflection.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #11: Community Celebration with Shared Meal Rubric

	Full Points	Half Points	No Points
<b>Celebration Components</b>	Celebration brings together community residents, includes a focus on local achievements and provides resources to build resilience	Celebration brings together community residents but is missing a focus on local achievements or resources to build resilience	Celebration doesn't bring together community residents
<b>Shared Meal Components</b>	Shared meal is seasonal, healthy and nutritious and includes locally grown produce	Shared meal is seasonal, healthy and nutritious but doesn't include locally grown produce	Shared meal is seasonal but is not healthy, nutritious or focused on locally grown produce
<b>Personal Reflection</b>	Personal reflection includes at least three photographs and four sentences describing the celebration	Personal reflection includes two photographs and three sentences describing the celebration	Personal reflection doesn't include photographs and/or is fewer than three sentences
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Submission Details</b>	Challenge was submitted by the due date of November 30		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?



## December Theme: Acts of Kindness

*Due Date: December 29, 2023*

### **Challenge #12: Give Back Event**

Your challenge is to plan a volunteer event, tree planting, vacant lot clean-up, food drive, clothing drive, etc. to give back to your community. The event should reach a wider community than just your class or club. This is a great way for you to share with your fellow students and community members about the work you have been doing this semester!

### **Challenge #13: Natural Gifts**

The season of giving can be resource intensive and financially stressful. Your challenge is to create a gift using natural items that were either found, harvested, or collected locally. Explore your creativity! The gift can be as large or small as you want, but should show thoughtful planning and effort was put into it.

**“There is no key to happiness; the door  
is always open.”**

*~ Mother Teresa*



*This page intentionally left blank.*





# Challenge #12: Give Back Event

## *December*

### Description

Your challenge is to plan a volunteer event, tree planting, vacant lot clean-up, food drive, clothing drive, etc. to give back to their community. You are encouraged to work in a group to plan and execute the event. The event should reach a wider community than just your class or club. This is a great way for you reach out to your fellow students and community members about the work you have been doing this semester!



### Resources

For further support in connecting with your community, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

### Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #12.
- Step 2:** Determine what kind of event you would like to have (tree planting, native pollinator garden installation, can drive, clothing drive, lot clean-up).
- Step 3:** Set the date for the event. (Make sure to check the school calendar!)
- Step 4:** Assign tasks to group members (photographer, scheduler, coordinator, etc.).
- Step 5:** Use the rubric on the next page to plan your event.
- Step 6:** Host the event.
- Step 7:** Write your reflection.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #12: Give Back Event Rubric

	Full Points	Half Points	No Points
<b>Planning and Prep</b>	Submitted event plan includes where and how materials were gathered as well as promotional materials to advertise the event	Submitted event plan is missing materials lists or promotional materials	Submission is unclear or missing an event plan
<b>Event</b>	Submission includes six captioned photos showing the full scope of the event (including but not limited to prep, day of and cleanup)	Submission includes fewer than six photos or photos do not share the full scope of the event or photos are missing captions	Submission includes fewer than three photos
<b>Personal Reflection</b>	Personal reflection is five sentences about the experience	Personal reflection is three sentences about the experience	Reflection is less than 3 sentences
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of December 29		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### Standards Alignment

- Meets these ELA standards: SL.9-10.1b, SL.11-12.1b

# Challenge #13:

## Natural Gifts

*December*

### Description

The season of giving can be resource intensive and financially stressful. Your challenge is to create a gift using natural items that were either found, harvested, or collected locally. Explore your creativity! The gift can be as large or small as you want, but should clearly demonstrate thoughtful planning and effort.



### Resources

For inspiration and ideas, see <https://civiggardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civiggardencenter.org](mailto:greenteens@civiggardencenter.org).

### Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #13 and check out the link above for some ideas to help get you started!
- Step 2:** Determine what gift you are going to make and what natural elements you are going to collect from. Remember to take photos during the collection process. Also remember to document what plants you are using.
- Step 3:** Gather additional materials.
- Step 4:** Begin making your gift.
- Step 5:** Follow or edit your plan as necessary. Document the process with photos.
- Step 6:** Finish making your gift.
- Step 7:** Give your gift to whomever you decide. Take pictures of the gift once completed!
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #13: Natural Gifts Rubric

	Full Points	Half Points	No Points
<b>Plan</b>	Submission includes a plan for the craft, a materials list and the intended gift recipient	Submission is missing one component from the Full Points section	Submission is missing more than one component from the Full Points section
<b>Collection</b>	At least two items used for making the gift were found, harvested or collected locally; materials list clearly labels these items and where they were found	At least one item used for making the gift was found, harvested or collected locally; materials list clearly labels this item and where it was found	No items were found, harvested or collected locally
<b>Execution</b>	Submission includes three photos of the creation process (one before, one during and one after)	Submission is missing one of the three photos listed in the Full Points section	Submission is missing more than one photo listed in the Full Points section
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Submission Details</b>	Challenge was submitted by the due date of December 29		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### Standards Alignment

- **Meets these ELA standards:** RST.11-12.7, RST.11-12.8, RST.11-12.9
- **Meets these Math standards:** MP.2, MP.4
- **Meets these Science standards:** HS-ETS1-2



# January Theme: Sustainable Cycles

*Due Date: January 31, 2024*

## **Challenge #14: Compost**

Composting is a way to recycle organic material to support new plant growth! Your challenge is to research and create a new composting method for your class or club. It is imperative that you also determine the long-term maintenance plan for your composting system.

## **Challenge #15: Waste Audit**

As Americans, we create an average of 4.4 pounds per day (or 1,600 pounds per year). The global average is 2.6 pounds per day, meaning that Americans are producing almost double the amount! Your challenge is to conduct a waste audit, which is a measured way to determine what waste is being produced by your class, club or school.

## **Challenge #16: Upcycling**

Upcycling is the process of reusing materials or waste items to create a new product that is functional, creative and beautiful! Your challenge is to repurpose found materials in new and interesting ways. The creation made should be functional, wearable and/or artistic.

## **Challenge #17: Natural Cleaning**

Many cleaning products available in today's market are full of chemicals that are best kept away from our bodies and homes. Your challenge is to research and make your own cleaning products. With these homemade solutions, you are in control of your environment—while still keeping it clean!

**“There is no such thing as ‘away’. When we  
throw something away it must go somewhere.”**

*~ Annie Leonard*



*This page intentionally left blank.*



# Challenge #14:

## Compost

### *January*

#### Description

Composting is a way to recycle organic material to support new plant growth! Your challenge is to research and create a new composting method for your class or club. There are many ways to compost: a vermicompost bin, a three-bin system, Bokashi composting, etc. Participants are encouraged to work as a group to conduct research and determine which system will work best for their club, class or school. It is important that you also plan for the long-term maintenance of your composting system.



#### Resources

For inspiration and ideas, see <https://civicgardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

#### Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #14.
- Step 2:** Research different compost systems.
- Step 3:** As a group, decide which compost system you are going to implement OR connect with a local community garden and contribute to their compost system. If you're interested in connecting with a community garden, please reach out to the Green Teens team at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).
- Step 4:** Create a calendar of maintenance for your compost system including how it will be aerated.
- Step 5:** Determine what signage will be most useful for the compost system. Signage should at least inform people about what is happening in the system and what can and cannot go into the system.
- Step 6:** Build your compost system! And add signage!
- Step 7:** Take pictures during the process!
- Step 8:** Make sure your name and email are written clearly and that you have complied all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the "Full Points" column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #14: Compost Rubric

	Full Points	Half Points	No Points
<b>Research, Materials and Design</b>	Submission clearly states which compost method was created, gives three reasons why the method was chosen and includes a materials list and design sketch	Submission is missing one component from the Full Points column	Submission is missing two or more components from the Full Points column
<b>Implementation</b>	Compost system was built according to materials list and design; submission includes a maintenance calendar through the end of the school year	Compost system was built but is vastly different from the design or submission is missing a maintenance calendar	No compost system was built
<b>Signage</b>	Signage was created that clearly lists what can and cannot go into the compost system	Signage was created but is not 100% accurate about what can and cannot go into the compost system or signage is not clearly visible	No signage was created for the compost system
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of January 31		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### Standards Alignment

- **Meets these ELA standards:** RST.11-12.7, RST.11-12.8, RST.11-12.9, RST.9-10.8, WHST.9-12.7, RST.11-12.1, RH.9-10.1, RH.9-10.2, RH.11-12.2, WHST.9-10.9, WHST.11-12.9
- **Meets these Math standards:** MP.2, MP.4, HSN-Q.A.1, HSN-Q.A.2, HSN-Q.A.3
- **Meets these Science standards:** HS-ETSI-2, HS-ETS1-3, HS-LS2-7, HS-ESS3-4.



# Challenge #15:

## Waste Audit

### *January*

#### Description

As Americans, we create an average of 4.4 pounds per day (or 1,600 pounds per year.) The global average is 2.6 pounds per day, meaning that Americans are producing almost double the amount! Your challenge is to conduct a waste audit, which is a measured way to determine what waste is being produced by your class, club or school. The best way to help divert waste into other systems (like recycling or composting) is to understand what is being thrown out. By going through the waste literally, you can begin to understand what further resources and education people need to sort their trash properly.



#### Resources

For a resource from the EPA that walks you through creating a plan and executing a waste audit at your school, see <https://civicgardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

#### Steps to Success

- **Step 1:** Read the description (above) and rubric (next page) for Challenge #15.
- **Step 2:** Make a plan. Determine where and when you will conduct your waste audit.
- **Step 3:** Collect your supplies: gloves, scale to weigh items, trash bags, recycle bin, compost bucket (contact the Green Teens team if you need to borrow supplies: [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org)).
- **Step 4:** Create signage informing fellow classmates or participants of the waste audit, how they can contribute and why you are conducting it.
- **Step 5:** Conduct your waste audit! Take photos of the sorting process while recording data in a table describing what you found, how much there was and other interesting notes.
- **Step 6:** Write a five-sentence reflection about your experience, your ideas on how to reduce waste and your next steps to promote a cleaner, greener world.
- **Step 7:** Submit your challenge by uploading your plan and data table with descriptions of what you found during the waste audit, three photos with captions and your reflection.
- **Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- **Step 9:** Review the rubric to make sure you have met all the “Full Points” column.
- **Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #15: Waste Audit Rubric

	Full Points	Half Points	No Points
<b>Research, Materials and Design</b>	Submission includes waste audit plan that outlines materials needed and when/where waste would be sorted	Submission includes a waste audit plan that is missing crucial details or is unclear	Submission is missing a waste audit plan
<b>Data and Experience</b>	All data tables are accompanied by descriptions of the content found within the waste; submission includes three captioned pictures of the sorting process	Submission is missing one component from the Full Points column	Submission is missing more than one component from the Full Points column
<b>Reflection</b>	Submission includes a reflection of at least five sentences about the experience and ideas of how to reduce waste	Reflection is four sentences	Reflection is less than three sentences
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of January 31		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### Standards Alignment

- **Meets these ELA standards:** RH.9-10.3, WHST.9-10.9, WHST.11-12.9

# Challenge #16:

## Upcycling

### *January*

#### Description

Upcycling is the process of reusing materials or waste items to create a new product that is functional, creative, and beautiful! Your challenge is to repurpose found materials in new and interesting ways. There are uses for upcycling in fashion, art, technology and engineering. The creation made should be functional, wearable, and/or artistic.



#### Resources

For inspiration and ideas, see <https://civicgardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

#### Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #16.
- Step 2:** Research and brainstorm what you would like to create.
- Step 3:** Sketch a draft.
- Step 4:** Gather materials. Materials should be mostly either recycled items or items you already have around. Do your best to not purchase new materials.
- Step 5:** Sketch a final draft based on the materials you have available.
- Step 6:** Create, build and craft your creation. Take at least one photo during the process.
- Step 7:** Take final photos! Remember to also submit the sketch of your creation.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the "Full Points" column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #16: Upcycling Rubric

	Full Points	Half Points	No Points
<b>Materials</b>	At least four materials used are diverted from trash/recycling	At least two materials used are diverted from trash/recycling	Fewer than two materials used are diverted from trash/recycling
<b>Design</b>	Creation is functional and artistic, wearable or able to be displayed; design was drafted before work began, and submission includes a copy of the draft	Creation is functional but the submission does not include a draft	Creation is not functional, wearable, or able to be displayed
<b>Photos</b>	Submission includes at least three photos: one during the build and two of the completed product	Submission includes only one photo: one during the build or one of the completed product	Submission includes no photos
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of January 31		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### **Standards Alignment**

- **Meets these ELA standards:** RST.11-12.1, RST.11-12.8, WHST.9-10.5, WHST.11-12.5, WHST.9-10.9, WHST.11-12.9
- **Meets these Math standards:** MP.2, MP.4, HSN-Q.A.1, HSN-Q.A.2, HSN-Q.A.3
- **Meets these Science standards:** HS-ESS3-4

# Challenge #17: Natural Cleaning

## *January*

### Description

Many cleaning products available in today's market are full of chemicals that are best kept away from our bodies and homes. Your challenge is to research and make your own cleaning products. With these homemade solutions, you are in control of your environment—while still keeping it clean!



### Resources

For inspiration and ideas, see <https://civicgardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

### Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #17.
- Step 2:** Research what kinds of cleaning products you would like to make.
- Step 3:** Once you select which cleaning products you are making, create your own instructions/directions page. Make sure to include your references in your submission.
- Step 4:** Gather your materials.
- Step 5:** Following your directions, make the products. Also make ingredients labels for the products.
- Step 6:** Decide what you are going to clean.
- Step 7:** Take a before, during, and after cleaning picture.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #17: Natural Cleaning Rubric

	Full Points	Half Points	No Points
<b>Research</b>	Submission includes a researched materials list and directions sheet w/ references	Submission is missing one component from the Full Points column	Submission is missing both components from the Full Points column
<b>Creation</b>	At least two cleaning solutions were created and are clearly labeled with the ingredients	One cleaning solution was created and is clearly labeled with the ingredients	No solutions were created
<b>Photo Documentation</b>	Submission includes three photos of the cleaning process (one before, one during and one after)	Submission is missing one of the photos listed in the Full Points column	Submission is missing more than one photo listed in the Full Points column
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of January 31		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### **Standards Alignment**

- **Meets these ELA standards:** RH.9-10.3, WHST.9-10.2, WHST.11-12.2, WHST.9-10.9, WHST.11-12.9, RST.11-12.7, RST.11-12.8, RST.11-12.9
- **Meets these Math standards:** MP.2, MP.4
- **Meets these Science standards:** HS-ETS1-2



# Green Teens CHALLENGE

## February Theme: Water for Life

*Due Date: February 29, 2024*

### **Challenge #18: Seed & Water Experiment**

Your challenge is to create your own experiment with seeds and water as your variables. This experimentation will help you be better plant parents by understanding which inputs best suit your plants' needs.

### **Challenge #19: Local Water Quality Assessment**

Water is the key ingredient to the success of life on our planet. Without access to healthy water our forests, wildlife and human activity would diminish drastically. Your challenge is to observe, record and evaluate local water sources. Plan to analyze three different water sources: one treated and two untreated.

### **Challenge #20: Rainwater Harvesting**

Your challenge is to build a rainwater harvesting system, such as rain barrels and rain gardens. Each rainwater harvesting system should include a list of supplies and procedures and a short description of why this system is effective.

### **Challenge #21: Deadly Water Bottles Public Service Announcement**

The presence of clean water in the Cincinnati region is an invaluable resource for agriculture and transportation. Your challenge is to tackle an environmental tragedy: the single use water bottle. You will create a public service announcement (PSA) in the form of a poster or flier that can be shared with the public.

**“Water is life’s matter and matrix, mother and medium. There is no life without water.”**

*~ Albert Szent-Gyorgyi*



*This page intentionally left blank.*





# Challenge #18: Seed & Water Experiment

## *February*

### Description

Your challenge is to create your own experiment with seeds and water as your variables. One idea might be to see whether carrot seeds from 2018 or 2023 germinate better. Another idea could be to use the same broccoli seed but using water from a rain barrel vs. from the water fountain. This experimentation will help you be better plant parents by understanding which inputs best suit your plants' needs.



### Resources

For inspiration and ideas, see <https://civicgardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

### Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #18.
- Step 2:** Create an experimental design. Remember, you should only change 1 variable (either seeds or water), while keeping everything else the same.
- Step 3:** Clearly define the experimental variable and the control variable. Determine what you are measuring and record your hypothesis.
- Step 4:** Create your materials list.
- Step 5:** Set up your experiment.
- Step 6:** Collect data as your experiment continues. Collect data points as often as you can. Organize your data into a graph, chart, or table.
- Step 7:** Write your reflection.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #18: Seed & Water Experiment Rubric

	Full Points	Half Points	No Points
<b>Plan</b>	Submission includes a clear and legible experimental design and materials list; experimental and control variables are defined; experiment is centered around seeds and water	Submission is missing one component from the Full Points column	Submission is missing one component from the Full Points column
<b>Data</b>	At least ten data points were collected and are represented in a chart, table or graph with a caption explaining result trends; submission includes at least two pictures of experiment set-up and/or results	At least five data points were collected and are represented in a chart with a caption explaining trend results and/or submission includes only one photo	Submission is missing one component from the Full Points column
<b>Reflection</b>	Submission includes a three- to five-sentence reflection that accurately summarizes results, and the implications of possible sources of error	Submission is missing one component from the Full Points column	Submission is missing a reflection
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of February 29		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### **Standards Alignment**

- **Meets these ELA standards:** RST.11-12.8, WHST.9-12.9, W.9-10.7, W.11-12.7, W.9-10.8, W.11-12.8, RH.11-12.9, WHST.9-10.2, WHST.11-12.2, WHST.9-10.9, WHST.11-12.9
- **Meets these Math standards:** MP.2, MP.4, HSN-Q.A.2, F.IF.4
- **Meets these Science standards:** HS-LS4-5

# Challenge #19:

## Local Water Quality Assessment

### *February*

#### Description

Water is the key ingredient to the success of life on our planet. Without access to healthy water our forests, wildlife and human activity would diminish drastically. Your challenge is to observe, record and evaluate local water sources. Plan to analyze three different water sources: one treated and two untreated.



#### Resources

For a sample worksheet, see <https://civiggardencenter.org/green-teens-challenge>. To check out a Water Quality Test Kit or for further support, email us at [greenteens@civiggardencenter.org](mailto:greenteens@civiggardencenter.org).

#### Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #19.
- Step 2:** Visit <https://civiggardencenter.org/green-teens-challenge> for a sample worksheet.
- Step 3:** Determine where you will get the samples from. Water should be from treated and untreated sources.
- Step 4:** Obtain materials necessary to perform water quality tests. Kits are available to borrow; please email the Green Teens team at [greenteens@civiggardencenter.org](mailto:greenteens@civiggardencenter.org) for information.
- Step 5:** Set water testing date.
- Step 6:** Test water and collect data.
- Step 7:** Write a description about the data that explains any trends or significant findings in your water assessment.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #19: Local Water Quality Assessment Rubric

	Full Points	Half Points	No Points
<b>Sampling</b>	Three samples were taken: one from a treated source and two from untreated sources	Three samples were taken, but two are treated and one is untreated	Fewer than three samples were taken
<b>Data Collection</b>	Ten data points were collected for each water sample (see sample worksheet for details) using proper units	Eight data points were collected for each water sample using proper units	Fewer than eight data points were collected for each water sample
<b>Data Analysis</b>	Data is accurately represented in a graph, table or chart and accompanied by a three sentence description explaining significant findings and conclusions	Data is accurately represented in a graph, table or chart but description is lacking clear conclusions	Data is not accurately represented in a graph, table or chart and/or description is missing
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of February 29		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### Standards Alignment

- **Meets these ELA standards:** RH.9-10.3, RH.9-10.7, WHST.9-10.9, WHST.11-12.9
- **Meets these Math standards:** HSN-Q.A.3, N.Q.2
- **Meets these Science standards:** HS-ESS2-5

# Challenge #20: Rainwater Harvesting

## *February*

### Description

Your challenge is to build a rainwater harvesting system, such as rain barrels and rain gardens. You should take time to research rainwater catchment systems and develop one that is safe and effective. Each rainwater harvesting system should include a list of supplies and procedures and a short description of why this system is effective (see the rubric on the next page for details).



### Resources

For a resource to help plan your project, see <https://civicgardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

### Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #20.
- Step 2:** Check out the resource for this challenge at <https://civicgardencenter.org/green-teens-challenge> for inspiration and help planning your project.
- Step 3:** Locate where you are going to place the water catchment system. Provide evidence as to why this is a good location.
- Step 4:** Sketch or draft a build plan for your system. Gather your materials.
- Step 5:** Build and test the system to ensure it works as intended. Calculate how much water your system is capable of holding.
- Step 6:** Create a plan for winterization.
- Step 7:** Submit pictures of the whole system and its location.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the "Full Points" column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #20: Rainwater Harvesting Rubric

	Full Points	Half Points	No Points
<b>System Specifications</b>	System is built to harvest rainwater and utilizes sustainable materials	System is built to harvest rainwater but doesn't use sustainable materials	System doesn't harvest rainwater or use sustainable materials
<b>System Components</b>	System includes elements to collect, store and use rainwater	System includes elements to collect and use rainwater	System is missing vital elements and/or doesn't collect rainwater
<b>System Effectiveness</b>	System is built to withstand heavy rain events and includes a plan for winterization; submission includes a calculation of how much rainwater the system can hold	System is able to withstand heavy rain events but doesn't include a plan for winterization or a calculation of how much rainwater the system can hold	System is unable to withstand heavy rain events and doesn't include a winterization plan or a calculation of how much rainwater the system can hold
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of February 29		Challenge was not submitted by due date

### Did you...

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### Standards Alignment

- **Meets these ELA standards:** RST.11-12.7, RST.11-12.8, RST.11-12.9, RST.11-12.1, WHST.9-10.9, WHST.11-12.9
- **Meets these Math standards:** MP.2, MP.4, HSN-Q.A.1, HSN-Q.A.2, HSN-Q.A.3, G.GMD.3, G.MG.1
- **Meets these Science standards:** HS-ETSI-2, HS-ETS1-3, HS-ESS3-4

# Challenge #21: Deadly Water Bottles

## Public Service Announcement

*February*

### Description

The presence of clean water in the Cincinnati region is an invaluable resource for agriculture and transportation. Your challenge is to tackle an environmental tragedy: the single use water bottle. You should create a public service announcement (PSA) in the form of a poster or flier that can be shared with the public. Each PSA should be engaging and appropriate for an audience of all ages while providing basic information about the dangers associated with single use water bottles.



### Resources

For more information on the catastrophe of bottled water and alternatives to plastic bottles, see <https://civicgardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

### Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #21.
- Step 2:** Begin research on water bottles by checking out the links above.
- Step 3:** Conduct additional research.
- Step 4:** Create an outline with all your information and references.
- Step 5:** Design a poster that includes the information from your outline.
- Step 6:** Find a public space (somewhere other than your school hallway) where you would like to display your poster or distribute your flier.
- Step 7:** Receive necessary permission to display your poster. Take photos of your poster displayed in a public venue. Write a caption detailing where your poster is located.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission. Include your outline from step 3, photos of your poster, and your photos from step 6.
- Step 9:** Review the rubric to make sure you have met all the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #21: Deadly Water Bottles Public Service Announcement Rubric

	Full Points	Half Points	No Points
<b>PSA Parameters</b>	PSA focuses on the topic of single-use water bottles	PSA mentions single-use water bottles but doesn't focus on the topic	PSA doesn't focus on single-use water bottles
<b>PSA Elements</b>	PSA outlines at least five drawbacks of single-use water bottles and lists at least three potential alternatives	PSA outlines at least three drawbacks of single-use water bottles and lists at least two potential alternatives	PSA is lacking basic information and/or has fewer than two alternatives listed
<b>PSA Distribution</b>	PSA is clearly displayed and/or distributed in public spaces and documented with a photo or video submission	PSA is displayed and/or distributed with limited public access and documented with a photo or video submission	PSA is not displayed and/or distributed OR is not documented with a photo or video submission
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of February 29		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### **Standards Alignment**

- **Meets these ELA standards:** W.9-10.2, W.11-12.2, W.9-10.6, W.11-12.6, W.9-10.8, W.11-12.8, SL.9-10.5, SL.11-12.5, L.9-10.3, L.11-12.3, WHST.9-10.5, WHST.11-12.5, WHST.9-10.6, WHST.11-12.6, WHST.9-10.9, WHST.11-12.9





## March Theme: Pollinator Pals

*Due Date: March 29, 2023*

### **Challenge #22: Wildflower Field Guide**

Your challenge is to have the eyes of a pollinator as you find wildflowers blooming in your neighborhood. You should identify eight wildflowers that provide essential food to local pollinators. Each wildflower identified should include image(s) and a short description of their ecological importance.

### **Challenge #23: Pollinator Production**

Lights, camera...BEES? Your challenge is to create your own pollinator production. This film should highlight at least three pollinators in action. Remember, bees and butterflies are not the only pollinators out there working! There is already a Bee Movie, so do some research to learn about other pollinators that could use some time on the big screen.

*“Many eyes go through the meadow,  
but few see the flowers in it.”*

*~ Ralph Waldo Emerson*



*This page intentionally left blank.*



# Challenge #22: Wildflower Field Guide

*March*

## Description

In these hectic times of constant motion and global interactions, it's easy to miss the small details that support thriving ecosystems. We often observe flowers and then fruits but tend to miss the vital role that pollinators play. Your challenge is to have the eyes of a pollinator as they find wildflowers blooming in your neighborhoods. You should identify eight wildflowers that provide essential food to local pollinators. Each wildflower identified should include image(s) and a short description of their ecological importance (see the rubric on the next page for details).



## Resources

For inspiration and ideas, see <https://civiggardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civiggardencenter.org](mailto:greenteens@civiggardencenter.org).

## Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #22.
- Step 2:** Obtain identification materials, such as apps, identification books, pamphlets, etc. (see the link above for ideas).
- Step 3:** Go on a walk! Once you find a wildflower, try identifying it.
- Step 4:** Hand draw the flower or take two original photos.
- Step 5:** After your initial identification, further research each flower found.
- Step 6:** Write a description for each flower based on your research. Descriptions should be original and include references. Plagiarism will not be tolerated.
- Step 7:** Combine drawings and descriptions into a single book or document.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the "Full Points" column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #22: Wildflower Field Guide Rubric

	Full Points	Half Points	No Points
<b>Number of Wildflowers</b>	At least eight distinct wildflowers are described in detail	At least six distinct wildflowers are described in details	Fewer than six wildflowers are included
<b>Wildflower Images</b>	Every wildflower includes one detailed hand drawing or two original photos	One wildflower is missing a detailed hand drawing or two original photos	More than one wildflower is missing a detailed hand drawing or two original photos
<b>Wildflower Descriptions</b>	Every wildflower is accompanied by an original paragraph describing the size, color, growth habit and pollinator pal(s). Citations for research sources are clearly written	One wildflower is missing the paragraph describing the size, color, growth habit and pollinator pal(s) and/or citations are not clearly identified	More than one wildflower is missing the descriptive paragraph or descriptions are not original and/or citations are missing
<b>Student Information</b>	Student names, email addresses		Student names, email addresses
<b>Due Date</b>	Challenge was submitted by the due date of March 29		Challenge was not submitted by due date

### Did you...

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### Standards Alignment

- **Meets these ELA standards:** W.9-10.7, W.11-12.7, W.9-10.8, W.11-12.8, L.9-10.3, L.11-12.3, RH.9-10.1, RH.9-10.2, RH.11-12.2, WHST.9-10.8, WHST.11-12.8, WHST.9-10.9, WHST.11-12.9

# Challenge #23: Pollinator Production

*March*

## Description

Lights, camera...BEES? Your challenge is to create your own pollinator production. This film should highlight at least three pollinators in action. Remember, bees and butterflies are not the only pollinators out there working! There is already a Bee Movie, so do some research to learn about other pollinators that could use some time on the big screen.



## Resources

For inspiration and ideas, see <https://civicgardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

## Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #23.
- Step 2:** Research different kinds of pollinators.
- Step 3:** Gather filming equipment, whether it be your phones or a separate camera.
- Step 4:** Go look for pollinators in action, ideally pollinating a plant.
- Step 5:** Film three different types of pollinators for your submission.
- Step 6:** Edit the video to combine the footage of the different pollinators you found.
- Step 7:** Add voice over and captioning to your video. Information should include the importance of pollinators, what pollinator is being shown, etc.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #23: Pollinator Production Rubric

	Full Points	Half Points	No Points
<b>Video Length</b>	Video is between three and five minutes long	Video is less than three or more than five minutes long	Video is under two minutes long
<b>Video Components</b>	Video is original footage that includes at least three different pollinators	Video is original footage that includes at least two different pollinators	Video is not original footage or only includes one pollinator
<b>Content Elements</b>	Video uses voiceover and captioning to explain what the pollinator is and includes information about the pollination process	Video is missing one component from the Full Points column	Video is missing two components from the Full Points column
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of March 29		Challenge was not submitted by due dates

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### **Standards Alignment**

- **Meets these ELA standards:** SL.9-10.5, SL.11-12.5, L.9-10.3, L.11-12.3, RH.9-10.1, RH.9-10.2, RH.11-12.2, RH.11-12.9, WHST.9-10.9, WHST.11-12.9



## April Theme: Shout It Out

*Due Date: April 30, 2024*

### **Challenge #24: Transform Your Community**

As we share good news and advocate for positive change, we are contributing to a better future for all. Your challenge is to lead by example as you establish a visible transformation in your community. Some examples could be transforming an area of grass into a bed of native wildflowers, advocating for school gardens, picking up litter, restoring a public space, etc.

### **Challenge #25: Budding Naturalist**

Your challenge is to lead a guided walk through a natural area while pointing out interesting plants and features and explaining the significance of the space. You are asked to plan, deliver and reflect on a walk and talk experience.

### **Challenge #26: Celebratory Newsletter**

Your challenge is to share your experiences of the past school year with your family, friends and community members. You should create a newsletter that highlights your accomplishments from the past year and looks forward to future activities.

**“The planet does not need more successful people. The planet desperately needs more peacemakers, healers, restorers, storytellers, and lovers of all kinds.”**

*~ The Dalai Lama*



*This page intentionally left blank.*





# Challenge #24: Transform Your Community

*April*

## Description

When we share good news and advocate for positive change, we are contributing to a better future for all. Your challenge is to lead by example as you establish a visible transformation in your community. Some examples could be transforming an area of grass into a bed of native wildflowers, advocating for school gardens, picking up litter, restoring a public space, etc. Entries should include before and after photos and a reflection (see the rubric on the next page for details).



## Resources

For inspiration and ideas, see <https://civicgardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

## Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #24.
- Step 2:** Determine what kind of work you would like to do for your community (tree planting, invasive removal, pollinator garden install, adding garden beds, garbage cleanup, etc.).
- Step 3:** Set date for event. Invite outside community members to see the transformation (including the Green Teens Team!).
- Step 4:** Assign tasks to group members (photographer, scheduler, coordinator, etc.).
- Step 5:** Create a work plan for the event.
- Step 6:** Host the event.
- Step 7:** Write your own reflection and get a reflection from a community member.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #24: Transform Your Community Rubric

	Full Points	Half Points	No Points
<b>Photo Documentation</b>	At least three photos that clearly show a visible transformation before, during and after the work	Photos include parts of the process and final transformation but “before” photos are missing	Photos do not clearly show a visible transformation
<b>Type of Transformation</b>	Transformation is environmentally beneficial and relevant to the community	Transformation is relevant to the community but not environmentally beneficial	Transformation is not relevant to community or environmentally beneficial
<b>Reflection</b>	Reflection includes five complete sentences that describe why this transformation was chosen and how it will benefit the community. Includes reflection from one student and one community member involved in the transformation	Reflection is less than five sentences long or includes a reflection from one student but no community members	Reflection is missing
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of April 30		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### **Standards Alignment**

- Meets this ELA standard: SL.9-10.1b

# Challenge #25: Budding Naturalist

*April*

## Description

Your challenge is to lead a guided walk through a natural area while pointing out interesting plants and features and explaining the significance of the space. You are asked to plan, deliver and reflect on a walk and talk experience. The walk and talk does not need to be in the woods, but it should be outdoors. The submission should consist of a script, photos and a reflection (see the rubric on the next page for details).



## Resources

For inspiration and ideas, see <https://civicgardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

## Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #25.
- Step 2:** Determine a topic for the walk & talk. A great way to start is to decide where you are going to walk.
- Step 3:** Once the location is chosen, outline your talking points of the walk. Talking points should highlight aspects of the site, significant features, and personal stories.
- Step 4:** Practice walk & talk at least two times.
- Step 5:** Invite friends, siblings, fellow classmates etc. to join in as you lead them on your walk & talk.
- Step 6:** Have someone take pictures during the walk. Also, include pictures of what plants/features that were highlighted on the walk.
- Step 7:** Write your reflection, include your process and future ideas.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #25: Budding Naturalist Rubric

	Full Points	Half Points	No Points
<b>Photo Documentation</b>	Submission includes three photos taken by a participant of the presenter and area during the walk	Submission includes two photos taken by a participant of the presenter and area during the walk	Submission does not include photos of the presenter
<b>Script</b>	Script narrative clearly shows research about the area, including what plants/features are going to be highlighted	Script is written as an outline instead of a narrative but still clearly shows research and highlights	Script is missing significant information and is vague
<b>Reflection</b>	Reflection discusses the process of planning and lists one thing that went well and one thing that could be improved	Reflection is missing one of the elements from the Full Points column	Reflection is missing more than one element from the Full Points column or has grammatical errors
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of April 30		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### **Standards Alignment**

- **Meets these ELA standards:** W.9-10.3, W.11-12.3, W.9-10.5, W.11-12.5, SL.9-10.5, SL.11-12.5, WHST.9-10.5, WHST.11-12.5

# Challenge #26: Celebratory Newsletter

*April*

## Description

Making your voice heard and sharing your accomplishments with your community is important. Your challenge is to share your experiences of the past school year with your family, friends and community members. You should create a newsletter that highlights your accomplishments from the past year and looks forward to future activities. Judges will favor submissions that have a combination of photos and reflections to tell your story (see the rubric on the next page for details).



## Resources

For inspiration and ideas, see <https://civicgardencenter.org/green-teens-challenge>. For further support, email us at [greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org).

## Steps to Success

- Step 1:** Read the description (above) and rubric (next page) for Challenge #26.
- Step 2:** Spend time going through what you accomplished each month.
- Step 3:** Create an outline highlighting your stories from the school year.
- Step 4:** Write the first draft of the newsletter.
- Step 5:** Have a classmate or teacher proofread your draft.
- Step 6:** Make final edits, write the final draft and add pictures.
- Step 7:** Add pictures to the newsletter. Caption photos as needed.
- Step 8:** Make sure your name and email are written clearly and that you have submitted all pieces of your submission.
- Step 9:** Review the rubric to make sure you have met all the “Full Points” column.
- Step 10:** Submit and celebrate!

*Don't forget the rubric on the next page!*

## Challenge #26: Celebratory Newsletter Rubric

	Full Points	Half Points	No Points
<b>Newsletter Parameters</b>	Newsletter shares a minimum of four stories about the previous school year, each accompanied by at least one photo	Newsletter shares three stories about the previous school year, each accompanied by at least one photo	Newsletter includes two or fewer stories and/or is missing photos
<b>Newsletter Components</b>	Each story in the newsletter is a minimum of five sentences and clearly describes the lesson or activity and why it was impactful	Newsletter stories are missing one of the components from the Full Points column	Newsletter stories or are missing more than one component from the Full Points column
<b>Newsletter Communication</b>	Newsletter appeals to an audience of all ages and evidence is shown that it has been shared with the community through hard copies or electronically	Newsletter is written for a narrow audience or no evidence is shown that it has been shared with the community	Newsletter includes grammatical errors
<b>Student Information</b>	Student names and email addresses are clearly written		Student names and email addresses are missing
<b>Due Date</b>	Challenge was submitted by the due date of April 30		Challenge was not submitted by due date

### *Did you...*

- Complete the Steps to Success checklist on the previous page?
- Make note of the submission due date?
- Email us for support ([greenteens@civicgardencenter.org](mailto:greenteens@civicgardencenter.org))?

### **Standards Alignment**

- **Meets these ELA standards:** W.9-10.3, W.11-12.3, W.9-10.5, W.11-12.5, W.9-10.6, W.11-12.6, SL.9-10.5, SL.11-12.5, L.9-10.2, L.11-12.2, WHST.9-10.5, WHST.11-12.5, WHST.9-10.6, WHST.11-12.6, L.9-10.2, L.11-12.2

*Thank you for all your hard work!*

**We'll see you at the awards ceremony on May 14...**



*— The CGC Green Teens Team (Mary & Kaela)*



# *Green Teens* **CHALLENGE**

**2023-2024**