



# 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*



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# 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...*

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### 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://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 #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
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### Standards Alignment

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- **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
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- **Meets these Math standards:** MP.2, MP.4
- **Meets these Science standards:** HS-ETS1-2