Quick Guide: #LeaveNoTrash University Challenge

Photo credit: Leave No Trace

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What is the #LeaveNoTrash University Challenge?

The #LeaveNoTrash University Challenge is a student-centered spinoff of the existing Leave No Trace #LeaveNoTrash campaign.

It's a week-long event in April, designed to build a community of people who recognize the 7 Leave No Trace principles and apply them every place people live, work, and play, including college campuses and communities.

In other words, we pick up trash, and then we log data about it to power research about sustainability that can contribute to upstream solutions.

Why Participate in the #LeaveNoTrash University Challenge?

The truth is, trash doesn't always end up where it should, in a trash can. On your way to class, a pen falls quietly out of your backpack without you realizing it. A napkin flies out of your hands on a gust of wind while you're eating lunch outside with friends. And, in many parts of the world, the infrastructure needed to support effective trash management may not exist at all.

Left on its own, environmental trash winds up harming animals, plants, and people. But just because trash winds up in the wrong place doesn't mean it has to stay there. That's where you come in.

When you participate in the #LeaveNoTrash University Challenge, either alone or with a team, you help create a better understanding of where trash items are showing up and what kind of trash they represent. That's data that you can use to create actions that address the problem.

***Participatory science**, also sometimes called citizen or community science, is when members of the public are meaningfully involved in scientific research, often by collecting or analyzing data (data = information, like numbers and measurements, or words and pictures).*

The #LeaveNoTrash University Challenge isn't your everyday cleanup event. It's also a participatory science project. Researchers at CitSci, along with the team at Leave No Trace, designed this cleanup approach with data collection in mind. Use the protocols (a.k.a. methods) detailed in this guide to collect and document the trash you and your team's clean up. You'll contribute to a growing and open database that can be used to study and address environmental trash globally.

About the Partners

Leave No Trace

Leave No Trace is a membership-based nonprofit organization dedicated to protecting the outdoors through science-based education that inspires responsible recreation. Through cutting-edge research, hands-on training, and proven educational strategies, they empower individuals, communities, and organizations to become stewards of the environment. The Leave

No Trace educational program is built around seven core principles that guide people in making low-impact decisions outdoors.

CitSci

CitSci is a global citizen science platform for creating and implementing participatory science projects. They provide tools to support your entire research process, from creating projects to managing participants; building custom data sheets to collecting, sharing, and analyzing data; and more. They help project teams transform science into action. CitSci is a global platform based at Colorado State University. They co-lead the #LeaveNoTrash University Challenge because they want every student to recognize that Leave No Trace principles are just as relevant on-campus as they are in the natural spaces we all love.

Participating in the Challenge

When is the Challenge?

The "official" challenge takes place during the week around Earth Day in April each year. Please see the Challenge website for official dates for this year. Any data collected by schools during that week will be counted for the challenge. April is both Earth Month and Citizen Science Month, and therefore a perfect time to get outside for this event.

Turning Data into Action

During the very first year of this challenge, students at Colorado State University noticed that black plastic "sticks" were littering the campus. You didn't have to look very hard to find one.

With a little investigating, the students learned these were "snow brush bristles" that broke off snow clearing machines on campus at much higher rates than usual due to a particularly cold snow event that season.

The Facilities team was aware of what happened and worked hard to cleanup as many bristles as possible (they also started investigating ways to prevent a similar event in the future).

But, they also needed the help of the campus community to pick up the "rogue bristles" that found their way into bushes, sidewalk cracks, and other hard-to-reach places. The students picked up hundreds of bristles during the #LeaveNoTrash University Challenge that year.

Signing up for the Challenge

Step One

First, fill out the Leave No Trace interest form.

Step Two

Then, create a CitSci account and join the #LeaveNoTrash University Challenge project on CitSci. There are two ways to participate:

- People participating in a group. Local leaders will contribute data here about their cleanups, on behalf of the whole group. Use the Cleanup Datasheet.
- People participating on their own. Individuals can also add data. Use the Opportunistic Trash Pickup Datasheet.

The project stays open year-round, so you can continue your good work and add data anytime. Additional data about trash is useful to the science of this project and helps Leave No Trace with their programming goals.

Keep Your Eyes on the Prize (Literally!)

Leave No Trace and CitSci give out awards to schools in a few different categories, typically for things like most gallons of trash collected, largest number of participants, and more. Winning teams will be featured by Leave No Trace and CitSci in newsletters and on social media. Plus, you may even win some cool swag for your school!

Plan Your Cleanup

Know Your Audience

College and university students, as well as faculty and staff, are the primary audiences for the cleanup events, but you are welcome to invite community members, alumni, and more to participate, too! This is an opportunity to flex your community-building muscles by forging relationships with local businesses, schools, nonprofits, and more. Whoever shows up to clean

up (your mom, your friends, and others) gets counted! Just don't count your furry 4-legged friends; humans only, please! Solo cleanups are also encouraged. A team of 1 counts!

PS: Visit this Leave No Trace guide for even more tips for planning a cleanup event.

*If you aren't affiliated with a university or college but still want to be involved, participate in the other #LeaveNoTrash event and record your data via the main project, a participatory science project also sponsored by Leave No Trace.

Choose your Location

You can conduct a cleanup anywhere you have permission to be. Your college/university campus is an obvious place to start, but there are other great places as well, including local parks, trails, and city streets. Maybe you work remotely or are part of an Extension office or other university-affiliated location that isn't on your main campus. Great! Wherever you are, you can conduct a cleanup. Just be sure to select the university you're affiliated with when you fill out the datasheet, so your data is counted for your school.

If you're planning a cleanup in a park, natural area, or other public place, and plan to have more than 2-3 people with you, be sure to contact the manager for that property to see if you need permission first.

Finalize Your Event Format

We also invite you to host workshops or awareness activities to build excitement and encourage participation, in addition to traditional cleanups. You might consider organizing a Trash Trivia Night or a similar interactive event to engage participants in a fun, low-pressure way while educating them about waste reduction and sustainability. For cleanups, once you've chosen your site, create an RSVP form so you can estimate attendance and communicate important details with volunteers.

Next, promote your event widely. Circulate posters, send emails through newsletters and outreach to student clubs, and post consistently on social media. You can also reach out to your Dean of Students or student government for additional promotional support and creative ideas.

If you're looking for inspiration, review the template registration form from a past Colorado State University team (bit.ly/csuleavenotrash) and take a look at the sample flyer created by the April 2025 team, to the right.

Take Safety Precautions

Safety should always be a priority when conducting a cleanup. We recommend checking out the video and tips created by the City of Fort Collins as a great primer to cleanup safety. It only takes about 5 minutes to review their materials and primes you for potential hazards you may not have thought of yet. Consider sharing the link with your team members before your cleanup event.

If you're taking pictures during the event, ask for permission from your team members before posting photos on CitSci that include their faces. The photos posted to the project are publicly available and CitSci and Leave No Trace may use them for social media, newsletters, and other materials.

Gather Your Materials

Before your event, make sure to gather the necessary materials to keep participants safe and organized.

You will need buckets (see the protocol in the next section for details), and it's a good idea to coordinate with your campus grounds and facilities departments—these offices are sometimes separate, but both may be able to provide helpful supplies such as gloves, trash grabbers, safety vests, and additional buckets.

Participants should bring or be provided with protective gloves, as well as a smartphone or camera to document collected trash and submit data. We have a suggested supplies list in the next section. And of course, don't forget the most important supplies: a positive attitude and a shared commitment to sustainability.

Collecting Data

The Bucket Protocol

2026 is the first year we are trying out the Bucket Protocol. In the first two years of the project, we used more traditional cleanup methods (like plastic garbage bags), but they caused several challenges: they're awkward to carry as they fill up, they blow around and rip, and it is difficult for teams around the world to easily measure "amount of trash" in a consistent way, making it challenging for data analysis. The Bucket Protocol is an approach to cleanups that aims to make measuring trash volume easy, more consistent, and a lot more fun.

The general concept is simple:

1. Mark a 5 gallon or 20L bucket with gallon lines
2. Decorate your bucket
3. Collect trash
4. Fill out the Cleanup Datasheet on CitSci to record data about what kinds of trash and how much trash you collected
5. Share photos of your trash and your team!

Did you know? *Most 5 gallon buckets you find at the hardware store aren't perfect cylinders. They're called fulstrums, which have a slight taper to them. If we were measuring liquids in our buckets, the bottom gallon would be a bit deeper than the top gallon because the bottom of the bucket is slightly skinnier than the top of the bucket.*

Thankfully, we're estimating our trash volume and do not need the same level of precision you might need for measuring liquids, so our 7.5 cm lines will do the job.

The directions below provide the details you need to get started!

What you need:

- 5-gallon bucket OR a 20L bucket (in countries that use the metric system)
- Black Sharpie or other water-proof marker that can write on plastic
- A ruler with centimeter lines (yardsticks and metre-sticks work well)
- Plastic trash bags and/or garbage cans and/or recycling bins for disposing of your collected trash after the cleanup

Additional recommended supplies:

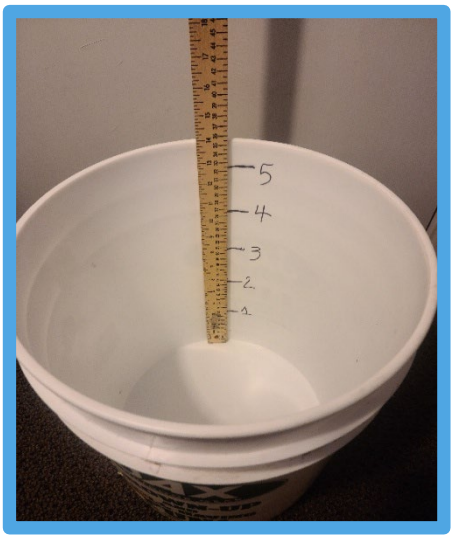
- Safety vests

- Trash grabbers
- Gloves
- Pencil + paper or Phone to take notes
- Phone or camera to take photos

Optional: For some cleanup areas, it can be useful to have a wagon for hauling your buckets around during the cleanup.

Pro tip: You can use a smaller 3-gallon or 10L bucket for your cleanup if that is easier for you, if it has a similar diameter to the 5 gallon/20L bucket (usually 11-12inches/26-30 cm). You'll just have fewer lines to mark and may need to empty your bucket more frequently.

Check out Leave No Trace's tips for making your cleanup even more sustainable.



Prepare Your 5-Gallon Bucket

Step One

Mark gallon lines on the inside of your bucket.

Place your ruler inside the bucket with the start of the ruler at the bottom of the bucket. Mark lines every 7.5 cm, starting from the bottom of the bucket and working up until you have 5 lines. There should be a little remaining space at the top of your bucket when you are done.

Step Two

Decorate the outside of your bucket.

Add your team name, school, stickers - whatever inspires you! Many teams recruit kids (their own or local schools) to help with cleanups so keep your decorations kid-friendly please!

Collect Trash

Print a copy of the datasheet (a paper version is included at the end of this guide) to take with you in the field, so you know what kind of data to document about your trash cleanup.

Note what time you start your cleanup and what time you end. You'll be asked to report how many minutes you spent on the cleanup (a measure of level of effort, which is an important part of the scientific dataset).

Then, start picking up trash and putting it in your bucket. Every time you fill your bucket (or it gets too heavy to carry!), write down how many gallons of trash are in it at that time, and empty it into a large trash bag (we also encourage you to recycle when possible). Later, you'll record the total number of gallons of trash you collected. The number of gallons can be tracked on a paper datasheet or phone during the cleanup.

ProTip: You may find some trash items that are too large for your bucket. Take a photo of the item and then dispose of it. There is a place on the datasheet for you to document large items.

Record Your Data: The Most Important Step

Fill out the Cleanup Datasheet on CitSci.

After your cleanup, one person on your team will need to enter your data on CitSci.

Step One

Create a CitSci Account (check out this YouTube video for help)

Step Two

Join the #LeaveNoTrash University Challenge project

Step Three

Add Data to the Cleanup Datasheet

At the end of this quick guide, you'll find a paper version of the datasheet that includes all the questions you'll see online later. Fill out as many fields as you can so your data can be counted for your school.

Remember: Documentation is an important part of science. Report your data so it counts!

Share Pictures of Your Trash and Team

The online datasheet includes a place to upload photos of you, your team, and the types and amount of trash you picked up. The trash photos are extra data we can use to understand cleanup events, so please include them! The photos of you and your team add an element of fun AND provide inspiration for other teams.

Opportunistic Trash Pickup

While the primary goal of the #LeaveNoTrash University challenge is to conduct cleanup events, you will probably also find yourself picking up trash on and off throughout the week as you go about your day-to-day activities. In science, we call this form of data collection "opportunistic sampling," and we've included a special datasheet for you to record what you find. The Opportunistic Trash Pickup Datasheet is also included at the end of this guide and is designed to be quick and easy for recording one or a few items of trash you pick up during your day-to-day activities in and around your campus and community.

Here's how Opportunistic Trash Pickup often happens: You're strolling to class when you notice a plastic bottle in the shrubs. Being the awesome person you are, you take a quick photo of the bottle, record the data on the Opportunistic Trash Pickup Datasheet, then pick up the bottle and put it in the nearest recycling bin. Easy!

Results from Past Challenges

The #LeaveNoTrash University Challenge has grown and adapted during the first two pilot years of the project. Check out the results from those challenges at the links below!

- 2025 #LeaveNoTrash University Challenge Results
- 2025 Student-created ArcGIS StoryMap
- 2024 Student-created ArcGIS StoryMap

Paper Datasheets

Cleanup Datasheet

Use this datasheet to record trash you find and pick up during a cleanup event in and around your campus community. This datasheet is designed for data collected using the Bucket Protocol. Be sure to select your school, share what types of items were most picked up (cans, plastic bottles, cigarette butts, etc.), and share a few photos of your cleanup event and trash haul.

If you want to record just one or a few pieces of trash you've picked up opportunistically, please use the Opportunistic Trash Pickup Datasheet instead.

Observation Date:

Observer:

Location

Name:

Latitude: (You can use the online map on CitSci for this)

Longitude: (You can use the online map on CitSci for this)

What college or university are you affiliated with? (This will be a dropdown with a list of schools we know are participating in the event). If your school isn't listed, you can add it in the "Other School" field below.

Other School:

How many people joined you?

Hint: If you are part of a large cleanup event, add only the number of people in your small team from the event. Example: 100 people came to the cleanup event. You collected trash with 5 people. Enter 5 here.

What was the most common type of item picked up?

- Plastic bottle
- Plastic bag
- Food wrapper

- Paper waste
- Metal/tin waste
- Glass/ceramic waste
- Cigarette butts
- E-cigarette trash
- Other

If other, please describe.

Add photo of most common type of item:

What was the second most common type of item picked up?

- Plastic bottle
- Plastic bag
- Food wrapper
- Paper waste
- Metal/tin waste
- Glass/ceramic waste
- Cigarette butts
- E-cigarette trash
- Other

If other, please describe.

Add photo of second most common type of item:

What was the third most common type of item picked up?

- Plastic bottle
- Plastic bag
- Food wrapper
- Paper waste
- Metal/tin waste
- Glass/ceramic waste
- Cigarette butts
- E-cigarette trash
- Other

If other, please describe.

Add photo of third most common type of trash:

If you removed large items that didn't fit in your 5-gallon bucket, record them here:

Add photo(s) of large items:

Were trash cans located within 100 feet (30 m) of the cleanup area?

Hint: A typical basketball court is 94 feet (28.6 m) long.

- **Yes**
- **No**

Were recycle bins located within 100 feet (30 m) of the cleanup area?

Hint: A typical basketball court is 94 feet (28.6 m) long.

- **Yes**
- **No**

How many gallons of trash did you/your team collect?

Hint: Provide total gallons as measured with your 5-gallon bucket. For example, if you filled your bucket to the top two times, enter 10 (2 buckets x 5 gallons/bucket = 10 gallons). Round to the nearest gallon.

How many minutes did you spend doing the cleanup?

Hint: Add your answer only in minutes so we can calculate the math correctly! Do not include the label "minutes". 1 hour = 60 minutes

Add pictures of your team, your trash haul and decorated buckets here.

Hint: Take fun photos of your cleanup team, trash haul, and your decorated bucket. Only upload pictures of people who have given permission for their photo to be shared publicly. CitSci and Leave No Trace may share your photos in newsletters and social media posts. Please do not upload photos with faces of kids under the age of 18.

Hint: round to the nearest gallon line marked on your bucket. Every time you fill your bucket to the 5-gallon mark, put a hashmark on your datasheet. Number of hashmarks * 5 + any remaining gallons = Number of gallons cleaned up.

Number of Buckets filled (1 bucket = 5 gallons)	

Opportunistic Pickup Datasheet

Use this datasheet to record trash you find and pick up during your day to day activities in and around your campus and community. For example, you're strolling to class when you notice a plastic bottle in the shrubs. Being the awesome person you are, you take a quick photo of the bottle, record the data with this datasheet, then pick the bottle up and put it in the nearest recycling bin. If you're conducting a cleanup event, please use the #LeaveNoTrash University Challenge Cleanup Datasheet.

Observation Date:

Observer:

Location

Name:

Latitude: (You can use the online map on CitSci for this)

Longitude: (You can use the online map on CitSci for this)

What college or university are you affiliated with? [DROPDOWN HERE]

Hint: If your school isn't listed, add it in the "Other School" field below.

Other School

Hint: If your school wasn't in the drop down above, add it here!

How many items did you pick up?

What type of item(s) did you pick up? [Select all that apply]

- Plastic bottle
- Plastic bag
- Food wrapper
- Paper waste
- Metal/tin waste
- Glass/ceramic waste
- Cigarette butts
- E-cigarette trash
- Other

If other, please describe.

Add a photo of the item(s):

How many people were with you when you picked up the items?

Were trash cans located within 100 feet (30 m) of the items you picked up?

Hint: A typical basketball court is 94 feet (28.6 m) long.

- **Yes**
- **No**

Were recycle bins located within 100 feet (30 m) of the items you picked up?

Hint: A typical basketball court is 94 feet (28.6 m) long.

- **Yes**
- **No**

Need clarification or assistance? Submit a help request.