



Zero Landfill Challenge



A Challenge to Tri-State Schools to reduce waste in their local communities

The Cincinnati Zoo & Botanical Garden is committed to achieving Zero Waste, and we want to help our tri-state schools and communities to get involved! The Zero Landfill Challenge is a challenge-based, collaborative learning experience aligned with state standards where teachers act as mentors to students leading the charge in achieving Zero Waste in their classrooms, schools, and communities. Each class team will tackle the real-world problem of solid waste using a multi-disciplinary approach that allows students to practice inquiry skills and implement tangible solutions. Students will implement a Zero Waste initiative in their school and develop creative ways of carrying the message of Zero Waste into their local communities. By taking part in this challenge, students are empowered to inspire communities to reduce waste, live responsibly, and act naturally.

Cincinnati Public Schools (CPS) currently includes "Buildings Going Green" in the district's Facilities Master Plan. This plan includes initiatives to reduce water and energy waste, as well as a Zero-Waste school plan that encourages CPS schools to reduce solid waste. Other districts in the Tri-State area have similar sustainability and waste-reducing plans including both Boone and Kenton Counties (KY).

Why become a Zero Waste school?

- Cut expenses! By creatively reducing and reusing materials, schools can reduce the cost of purchasing new products.
- Be environmentally friendly! Reducing waste also reduces the number of natural resources that must be used to make new products. By eliminating waste that must be placed into landfills, schools can help reduce soil, water, and air pollution.
- Create jobs! That's right – when we find creative ways of reusing materials, we create new jobs for people who want to help turn reused materials into "upcycled" products!
- Foods with lots of packaging (candy, processed foods, soda, chips) are typically less healthy than foods without any packaging (fruits, vegetables, lean meats, whole grain products).
- Support the Green and sustainable development efforts of area school districts, including Cincinnati Public Schools.



What skills will my students learn?

Throughout the program, students will:

- Learn and incorporate content knowledge from multiple subject areas
- Create a challenge with personal connections to their home communities
- Work in a collaborative environment driven by students who are responsible for themselves and their peers
- Discover knowledge through a real-world application
- Develop practical solutions to real-world problems
- Learn project management skills
- Engage in higher level thinking & tasks



The Benefits of Challenge-based Learning:

Program provides:

- A flexible framework customizable for any team's needs
- A focus on global challenges advocated for by the Cincinnati Zoo & Botanical Garden with a focus on local solutions
- An authentic connection between academic disciplines and real world experience
- A workflow to develop 21st century skills
- The purposeful use of technology for researching, analyzing, organizing, collaborating, communicating, publishing and reflecting
- The opportunity to encourage action from students now, rather than waiting until they are finished with school
- The documentation and assessment of the learning experience from challenge to solution
- A chance for students to take charge of their learning



The Challenge Timeline

February 25th, 2013

Challenge and
Registration Begins

April 8th, 2013

Mid-Point Check-in
with Zoo

May 6th, 2013

Program end
Final Projects
Submitted

May 10th, 2013

Challenge Winners
Announced

Challenge Specifics

- Any school in a 50 mile radius of the Tri-State area can register
- Registration and participation is FREE
- Each group selects a team name
Can be a single class or multiple classes within a single school. Teams are encouraged to partner with other groups in their community (e.g., Rotaries, civic gardens, businesses, etc...)
- The challenge lasts 2 months with one mid-point check-in. Schools can register and begin the program at any point during these two months beginning February 25th.
- A “Zero Waste Challenge” website will provide resource links and relevant information.
- We encourage each team to set up a blog that we can link directly from our website to showcase what they are doing.



Program Framework

The Challenge: Zoo-developed problem posed to local schools

- Announced Annually
- Globally Relevant
- Actionable on a Local Scale
- Multidisciplinary
- Aligned with Cincinnati Zoo Initiatives
- Provides a conservation issue that can be addressed through research

The Research: Student-developed investigations that lead to a focused action

At this stage, students are looking around their schools and communities and asking questions about how they can most efficiently reduce the amount of waste being sent to the landfill. This will require students to consider project logistics, school priorities, and school operations (e.g., staff time). The Research should be:

- Inquiry-based
- Relevant to students' lives
- Student-led and managed

Example questions students may ask during this stage:

- Which areas (e.g., copy rooms, lunchroom, classrooms, gym) produce the most waste?
- What events (e.g., lunch, sports, breaks) produce the most waste?
- How much lunchroom waste is compostable or recyclable?
- Could we build a compost center?
- Who will manage these efforts – students? Teachers?
- How will we know if this project is successful?



Evaluating the success of any project can be a complicated procedure, but we encourage each team to develop its own evaluation process. However, to assist teams with this process, we recommend considering the following outcomes:

- Quantity of waste diverted from landfill (e.g., volume, weight)
- Number & diversity of community partners (e.g., stores, churches, other schools)
- Enthusiasm or level of interest of students (e.g., Were they asking in depth questions? Were they more attentive?)
- Faculty & Staff evaluations (e.g., Were faculty and staff pleased? Did the project meet the practical needs of the school?)

Students may also identify other resources that they need in order to create their initiative. They may need to broaden their view of “research” to include surveys or audits. For instance, students may need to do some of the following to determine what Zero Landfill initiative will work best in their school:

- Internet research about the history of landfills
- Local research by contacting businesses that do Zero Landfill
- Surveys of fellow students, teachers, principals, and landfill & recycling company representatives
- Classroom or school waste audit

At the end of this stage, students should have decided on a Zero Landfill project. This choice should come from their data collection & analysis. Students should become well-versed in Scientific Inquiry during this stage!

The Action: The school-wide, student-led and school-supported initiative intended to reduce school waste bound for the landfill.

A successful Action component should be:

- Informed by data from investigations
- Directly implemented and managed by the students, not school staff. We encourage faculty and staff to collaborate with students by serving as mentors and advisors, but to allow the students to take on the lion’s share of the work.
- Locally-relevant
- Sustainable after the Zero Landfill Challenge ends

Example Actions:

- *Create a composting center on school grounds to minimize food waste*
- *Develop an after school club that “upcycles” waste (e.g., plastic pet food bags turned into purses)*
- *Implement a no-plastic bag day in the school lunch room*



During the Action stage, students should keep track of the waste they are freeing from the landfill. This will not only give them data to report, but it will also give them the opportunity to change tactics if they see that some methods are working better than others. For instance, students may begin to see that some actions (recycling printer cartridges) is not as practical or efficient as other actions (recycling plastic bags). Thus, students may actually change their Action depending on their results. This is not only common, but beneficial, and should be encouraged!

The Results:

Data provided by the students to the Zoo that explains how much waste they saved, how many people were directly involved, how many homes or communities were included, or any other data that is relevant to show the overall success of the program. Indeed, your students should have already clearly defined “success” for their individual projects.

We encourage you to be creative with how you present your results. Our hope is that students will help us inspire their communities to go waste free, so we’ll be looking for results that are informative, creative, and inspirational! Results may include:

- Charts
- Tables
- Photographs
- Videos
- Video diaries
- Blogs
- Power Point Presentations
- Posters
- Art Work
- Songs

The Solution:

A prescription for change! Your students will interpret their results and literally suggest a Zero Landfill plan for local schools. This plan may be multi-faceted, but it should be flexible and applicable to a wide variety of schools and communities.

Solutions will be different for each school, but ideally they will include:

- Multiple avenues for schools to become Zero Landfill
- Backup plans
- Timelines
- Program evaluation guidelines
- A list of community resources and partners
- Instructions for making community connections



School Incentives

After all schools have submitted their final projects, the Cincinnati Zoo will choose three winning schools based on amount of waste diverted, amount of community involvement, and level of creativity/level of enthusiasm. The winners will be announced on May 10th, 2013.

Third Place

- School Spotlight on the Cincinnati Zoo's website
- 5 free field trips for the entire school to use in the 2013-2014 academic year*

Second Place

- School Spotlight on the Cincinnati Zoo's website
- 10 free field trips for the entire school to use in the 2013-2014 academic year*

First Place

- School Spotlight on the Cincinnati Zoo's website
- 20 free field trips for the entire school to use in the 2013-2014 academic year*
- A special gift from one of our Zero Waste Ambassador Animals
- An award presentation by Zoo staff and animal ambassadors in the winner's classroom.

** One field trip = Up to 30 students and 1 chaperone per 10 students. For classes greater than 30 students, multiple field trips can be redeemed simultaneously. For example, a class of 47 students and 5 chaperones = 2 field trips, etc... Travel expenses are not included.*

We hope you'll join the Cincinnati Zoo in the quest for Zero Landfill!

Any questions, contact:

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Community Partners in this Challenge Include:



cincinnati-zoo.org