

# Sustainability Passion Projects

*Students at PS 333 tap in to their talents to teach their school community to change their wasteful ways.*



Images by Shakira Provasoli

By **Shakira Provasoli**

**H**AVE YOU NOTICED HOW CHILDREN just want to save the world? Students at Manhattan School for Children, a public school in New York City (PS 333), want to dive in and solve climate change, but they do not know how to do so. My job as their K–5 environmental science teacher is to help students find feasible eco-issues with simple solutions. This does not imply that I am teaching children to oversimplify; rather, I am teaching them how to view a large problem as a puzzle made up of smaller, bite-sized projects. For this reason, I require that students select an environmental dilemma on school grounds, specifically one which does not overwhelm them in their research or in their presentations. Tackling tiny issues builds confidence and lessens eco-anxiety.

## Passion Projects

Passion Projects are modeled after Google’s practice of allowing their employees to work on ideas they truly love 20% of the time. Many schools have brought this concept into the classroom with success. I have modified the idea to help students discover environmental topics that make them so mad that they are motivated to create change. Teaching young children that anger can lead to action is a concept overlooked in education. Students who feel strongly are more apt to put

effort into a project, yet they usually have little control over topics of study. There is no stopping their determination once students discover what they truly care about in terms of protecting the planet. Many students who are swept up in a topic will discuss it with everyone. I love to hear from parents that a dinner conversation centered around an environmental topic initiated by their children.

When students complete their education, they will go out into the world and (hopefully) attempt to make it a better place. Teachers must provide tools for success, including teaching how to listen to one’s own passions. Unfortunately, many students in our country are not engaged in their own learning. They have learned to tune out if they do not find instant gratification in a lesson. Learning how to listen to oneself and find one’s passion offers students the opportunity to tune in to their education.

## How to zoom in on a topic

Every September I set the stage with a focus on ways that environmental activists improve the world, emphasizing that change can and should start small. Perusing ecology books and video links allows students to discover their interests in energy, recycling, air quality, composting, and water. Older students independently complete a simple form to select projects. Younger students vote on a broad class topic, thus allowing me to assist them in researching it.

## Examples of sustainability projects

Problem observed at school	Solutions by students
Lights left on by classes	Hanging fact cards near light switches
Contaminated compost in cafeteria	Distributing comic and activity books
Indoor air pollution from permanent markers	Hosting a talk show with a “giveaway” of an air-purifying house plant
Students not bringing their reusable water bottles to the cafeteria and instead taking disposable cups for water at lunch	Holding a water bottle carrier design challenge to encourage students to bring their reusable water bottles to the cafeteria
Smartboards turned off but still sucking energy	Writing a grant to purchase power strips to make it easier to completely turn off Smartboards
Single-use plastics	Giving out “not so fun facts” about single-use plastics during a school bake sale
Classes not sorting waste properly in classrooms	Creating an interactive lesson to teach younger students in their classrooms
Not all Terracycle (a company that upcycles waste) items getting collected	Making Terracycle bins for each classroom decorated with images of the items that can be collected

Students who cling to a larger topic such as global warming must conference with me in order to make a list of reasons why our world is heating up. After coming up with major causes, such as increasing levels of carbon dioxide and methane in the air, we break these down further to find the small subject that the student finds most appalling. For example, a student who selects increasing release of methane may list that cows and food waste are major contributors. If s/he wants to focus on cattle, I remind the student that the problem must be found on school property, helping the student realize that the amount of meat eaten in the cafeteria is actually contributing to global warming. This realization, in turn, might be the spark for a plant-based nutrition campaign. If the student chooses to focus on food waste, he or she may consider the contamination in our organics recycling bins or focus on the amount of fresh food that is thrown out by students every day.

### Collaboration

Collaboration is a core concept in bringing sustainability to action. Students must learn how to work with others to share resources and create artistic projects. It is essential to teach students how to respond when a conflict arises and how to build empathy. I weave in lessons on group work, and each class creates a collaboration rubric to use for this project as well as for the rest of the year.

After selecting a sustainability problem, students form study groups to share research materials. Some of them decide to collaborate on a final project with their tablemates,

while others find ways to partner up with friends, studying related topics. I do not force students into groups for this project, and I do not discourage friends from working together if they have similar interests.

### How to research

It is essential to the integrity of these projects that they include new and relevant information, and students must be taught how to read or watch a resource and extract information. I require that first- and second-grade students each include one new fact about their topic, while third-graders are expected as a group to bring in three new facts. In fourth-grade, each student in a group is responsible for taking notes on three facts, but the project only needs to include a total of three new tidbits of information. In fifth-grade, the final product must include three unique facts per person in each group. Although I bring in website links later, I begin by offering printed materials as an independent choice, for too often students believe that computers hold all information. Students peruse books with titled tabs, articles that I have copied, or information that I have typed and printed myself. I want to make the research process as painless as possible so that students can dive in quickly. Each group maintains a folder with the rubric, their brainstorming sheets, and printed materials that they feel will help them. While this does appear to encourage paper waste, I reuse the folders and printed sheets from year to year. After students have exhausted the printed resources, if they still need more specific information, I allow them to go on to our class webpage and click on links that I provide.

## Remote learning

Can sustainability projects still occur in our current situation of remote learning? Although students are at home, they are able to still find a passion within the realms of waste, water, and energy, while finding a way to improve the world. Teachers can suggest that students conduct an audit while at home, which will open their eyes to their own wasteful ways. Students can then select a way to educate an audience.

Chloë Saffire-Klein, a fifth-grader at Manhattan School for Children, decided to collect all the plastic her family used from March 1st–March 31st in order to assess the amount of plastic containers, packaging, bottles, etc. that a typical family uses over the course of a month. At first Chloë assumed that her family didn't use much plastic, but when she went shopping with her mom, she saw how every aisle was just brimming with plastic, and she wanted to attempt the waste audit. Chloë soon became even more interested when she saw how quickly they filled up paper grocery bags with every piece of plastic that came in to their home. Soon, seven bags were filled. The final task was to sort the plastic. Chloë suggests that anyone who wants to try this project themselves create a chart and make tally marks every night to indicate the types of plastic collected.

For the month of April, Chloë and her parents are trying to find ways to use less plastic and go zero waste. For example, instead of liquid laundry soap, they purchased soap strips in paper packaging. In addition, they have started making their own yogurt in order to cut down on the plastic tubs. Finally, Chloë says she plans to write to companies and ask why they insist on using plastic. After all she says, "they are all billionaires and I know they can do something better than use plastic to package their products."

Chloë is excited to share her project with the school, but more importantly, she hopes that other kids will be inspired to look around and see how the world is filling up with plastic, and be motivated to conduct an audit of their plastic use. Plus, she adds, "this project is also good because you don't need the help of a parent to do it."

## Standards

Many teachers are probably wondering how I can possibly devote an entire month (or more) to a project that does not directly align with curriculum standards, but it is important to be flexible. I keep a copy of the NYC Science Scope and Sequence near me at all times and I view the adopted Next Generation Science Standards (NGSS), including the Disciplinary Core Ideas (DCI's), Science and Engineering Practices (SEP's) and Cross Cutting Concepts (CCC's). I file projects away by topic and refer to them throughout the year. I highlight what is important at each grade level and I either begin the class with a lesson or I end with a scaffolded share of a group's project focusing on the required standards. In this way, I introduce the required elements for every grade level.

## Students with disabilities

It is integral to my teaching philosophy that all students can find an entry point and feel successful. These sustainability projects are student-driven, which allows for differentiation on a natural scale. 24% of the pupils at Manhattan School for Children are students with disabilities, and everyone is expected to perform at grade level. I collaborate with the speech teachers and occupational therapists in order to offer extended time for researching topics, and I work with the physical therapists to ensure that students with mobility issues can access our materials. For students with communication devices, I work with their teachers to create buttons for discussing sustainability. All students are passionate, and all of them have the right to make their voices heard.





## Types of projects

Often, students assume the real fun in a unit comes months later when they may show what they have learned in an artistic manner. The wonderful part of these sustainability projects is that students begin the year engaged in an enjoyable activity. Every year I hear students marvel that they get to start off with an art project. I encourage students to call on their talents as they select an appropriate medium, and students ask themselves if they are cartoonists, artists, sculptors, writers, actors, singers, etc. Every student should feel successful, especially early in the year, and students in third-through fifth-grade may create any type of project they want, as long as it hits the criteria in the rubric. Since some direct teaching is essential for younger children, students in first-grade are taught how to design an informational poster, while second-graders learn how to make board games that teach players about their topics. Eventually, when those students are in third-grade, they can also have a choice of a song, a puppet show or news show script, a diorama or sculpture with labels, a newspaper, a comic strip, a hands-on experiment to demonstrate, etc. The project itself is enticing enough to students that they are eager to come to class. This is important to note, for motivation is often lacking early in the year. Since these projects are of their own choosing, students are excited to immediately begin working. Many choose to bring their projects home or ask to come work on them during recess.

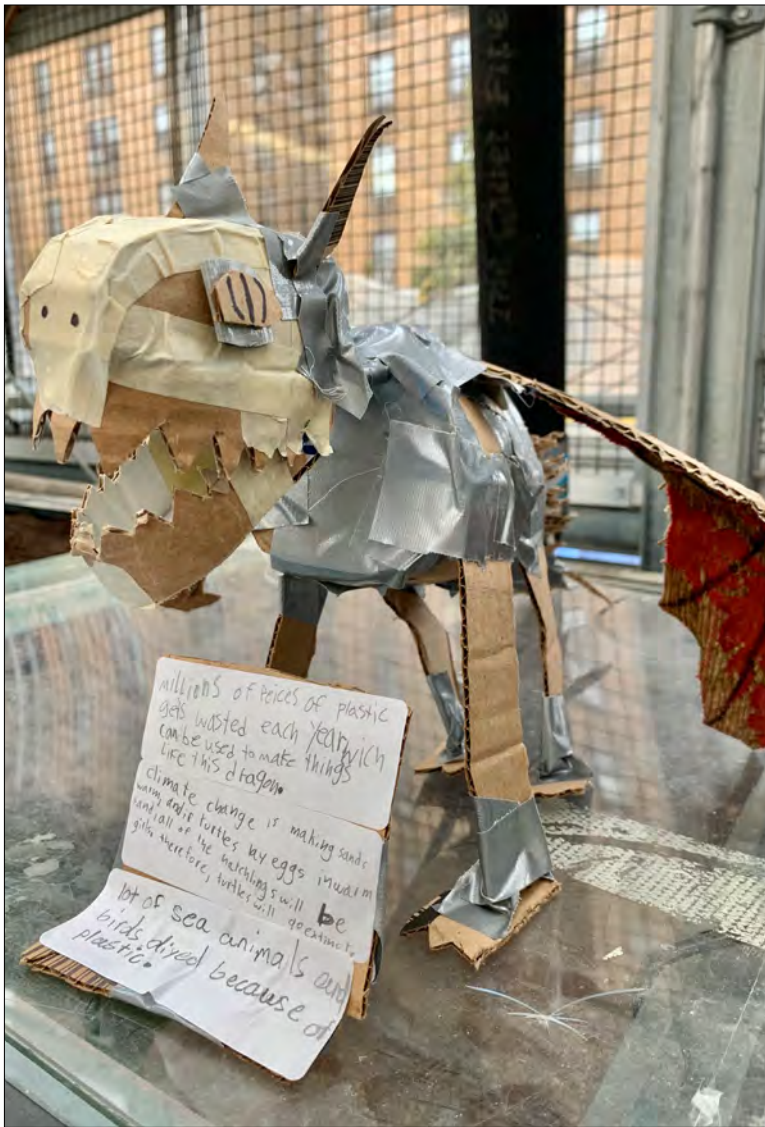
## Sharing with an audience

Students are expected to select an audience and ensure that the project aligns to the group. Sometimes the audience is a

large one, such as two grades that eat lunch together in the cafeteria, or everyone who uses the recess yard after school. At times the audience might be a smaller one, such as a Kindergarten class that needs to learn how to recycle properly or teachers who have refrigerators and microwaves in their rooms. Students must consider the audience when designing a project. I explain that if students are worried about parents bringing in and leaving disposable coffee cups, they might send an email, but they probably wouldn't write and perform a puppet show. I try to have students select a smaller audience to make it easier to present, receive feedback, and eventually assess the success of their project. However, sometimes it is necessary to address the entire school, and for this, we use the venue of our town halls or the school newsletter. Whatever the audience, it is important to reach out to help people at our school change their wasteful ways.

## How to assess

Students receive a grading rubric and brainstorming sheet at the beginning of the project. When they submit their projects, students grade themselves using this rubric and a self-assessment sheet before conferencing with me for a final grade. In January when students return from vacation, we re-assess the efficacy of their projects. Students reflect on how to measure success, whether it involves looking in recycling bins or conducting a survey. I do not grade students on the ability to alter people's wasteful behaviors, but rather on the attempt. Although students often want to continue to work on their projects, I have to stress that class time has ended, but they are welcome to work on them in their own spare time (and they often do).



complex as you prefer. The following are basic steps to follow:

Step 1: Brainstorm — Give students time to look through resources on water, energy, recycling, composting, and air quality.

Step 2: Pick a passion — Encourage students to look for environmental problems they see at school.

Step 3: Research — Offer multiple resources for students to discover new information to share in their projects.

Step 4: Collaborate on a project — Encourage puppet shows, posters, game boards, skits, emails, video games, announcements, talk shows, songs, comics, activity books, etc.

Step 5: Share — Allow groups to perform/show their projects to selected audiences and hopefully receive feedback.

Step 6: Assess — Distribute self-reflection sheets and conference with groups.

## Conclusions

With their ease of implementation, these sustainability projects have helped us immensely at PS 333 as we strive to go zero waste. Starting off the year with an exciting environmental endeavor increases student interest and participation in waste, water, and energy reduction. Learning how to listen to one's passions and tap in to existing talents will serve students well as they continue to teach people how to alter their wasteful eco-behaviors. Sharing with an audience is integral for the social-emotional learning of forming relationships, building empathy, and caring enough to change the world. Learning how to listen is a crucial component of collaboration, and when students learn from each other in a fun manner, it lessens the eco-anxiety that many teachers worry about when introducing topics connected

to climate change. When I created this unit nine years ago, I envisioned students studying environmental topics that would motivate them to participate from the beginning of the school year, and every year I am more inspired by the care woven into their work. What I didn't realize then was how these sustainability projects would bring our entire school community closer as students become experts who share their passions for protecting the planet.

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## Extending the projects

Given that I am the Sustainability Coordinator for my school of 700 students and 90 staff members, I must look for unique ways to introduce information about waste, water, and energy that does not overwhelm anyone or contribute to eco-anxiety. Teaching small groups of students about their selected topics and allowing them to share with the school helps us as we strive to go zero waste. Throughout the year I refer to students' projects when I introduce a lesson that has a connection. Starting off the year with these projects also highlights who are the most dedicated to the environment, for these are the students who opt to join the green teams. Whether they extend an initial sustainability topic or discover a new interest, these students continue to listen to their passions.

## Try it yourself

If you are looking for ways to increase sustainability efforts, you might consider these passion projects at your school. If early in the school year doesn't fit your curriculum, why not try them out in April around Earth Day, or at the end of your school year when you are seeking ways to motivate students? Offering students the opportunity to tap in to their talents encourages all to participate. The projects can be as simple or