



STEAMFest 2026



ENVIRONMENTAL CHALLENGE

Key Details

Registration Link	https://millburnedfoundation.networkforgood.com/events/98616-steamfest-2026
Registration Opens	March 10, 2026
Registration Closes	April 5, 2026 at 11:59pm
Submission Date	Submissions must be received by 11:59pm on April 10, 2026 Winners will be announced on the MEF website and prizes distributed subsequently
Eligibility	This challenge is open to Millburn students in grades K–12.
Teams	Students can work individually or as a team. Teams can consist of 1–4 students. Every team member needs to register individually. At the time of submission of the project, team details will be recorded. NOTE: Siblings and friends of different ages are allowed to be together in one team but the team needs to participate in the level corresponding to the oldest sibling/team member.
Submission Link	Please upload your video as “Unlisted” (Anyone with the link can watch your video) at this link: https://forms.gle/fiLzxZSBcZbAQHtR7 CLICK HERE for help with how to upload to YouTube.

Levels

ELEMENTARY	MIDDLE	HIGH SCHOOL
Grades K-4	Grades 5-8	Grades 9-12

Objective

The objective of the **MEF Environmental STEAM Challenge** is to get Millburn students to:

- Connect with and understand environmental issues.
- Explore innovative and ‘out of the box’ solutions to promote awareness and inspire action.

Introduction

The topic for the MEF Environmental STEAM Challenge 2026 is:

“Our Local Environmental Challenges and Opportunities”



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“In nature nothing exists alone.” — Rachel Carson

Rachel Carson (1907–1964), a pioneering marine biologist and conservationist, helped launch the modern environmental movement through her influential book *Silent Spring*. Her work reminds us that human choices are deeply connected to the health of our natural world. Carson also drew attention to the often unseen ways toxins and pollutants move through ecosystems and communities, affecting both environmental and human health.

This year’s challenge grows out of that idea. Students will examine a local issue connected to reducing harmful pollutants in everyday life — from cutting unnecessary single-use plastic waste, to limiting air and noise pollution, to exploring healthier, nature-based approaches to athletic field design. The MEF Environmental STEAM Challenge 2026 invites students and families to engage with real policies, ordinances, and proposals shaping our town and state, and to create projects that educate neighbors, spark discussion, and encourage positive action.

General Rules for ALL Levels

Teams

Students may participate individually or in teams of 1–4 students. If students from multiple grade levels form a team, the team must compete in the level corresponding to the oldest team member.

Work Ethic

Majority of work must be completed independently, with adult guidance limited to checks.

No Copyright Material

All assets must be original or properly cited.

Level-Specific Challenge Details

Level 1 – Elementary School (Grades K–4)

“Skip the Stuff” Awareness Challenge

Single-use food and beverage items such as bottles, caps, straws, wrappers, utensils, and condiment packets are a big part of the plastic problem. The U.S. EPA says containers and packaging made up 82.2 million tons, or 28.1%, of U.S. municipal solid waste in 2018, and National Geographic Kids notes that single-use plastic makes up more than 40% of all plastic trash. When plastic escapes into the environment, animals can get tangled in it or mistake it for food, and tiny pieces called microplastics can spread through water and soil. Scientists are still studying the full human-health effects, but plastic pollution is already linked to risks for wildlife, ecosystems, and environmental health.

Primary reference materials link: <https://www.nj.gov/dep/plastic-ban-law/>

Student Deliverables

- Poster – Create a poster that explains the Skip the Stuff idea in a simple, visual, and engaging way.



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- 1–2 Minute Video – Record a short video presenting your poster and encouraging families and schools to reduce plastic waste related to food consumption. While the schools are exempt from this legislation for next two years, encourage your school to adopt the principles of this law and reduce single use plastic waste in your school cafeteria.

Ideas for Students

- Where does plastic waste go after it is thrown away?
- Why should we be mindful to take only what we need?
- How can families and schools reduce single-use plastic waste in their home kitchens, school lunch boxes, school cafeterias and restaurants?
- How can your poster inspire people in Millburn to make better everyday choices?

Suggested resources for reference

[National Geographic Kids – Plastic Pollution](#)

[NOAA Marine Debris Program – For Kids and Families](#)

[Easy Ways to Reduce Plastic Use in the Kitchen Without Going Zero Waste – Plastic Practical](#)
[Plastics | Kids Environment Kids Health](#)

Level 2 – Grade 5 & Middle School (Grades 5–8)

Gas-Powered Leaf Blower Ordinance Challenge

Gas-powered leaf blowers are commonly used for landscaping, but they create outsized air and noise pollution. The California Air Resources Board reports that one hour of operation from a commercial backpack leaf blower can produce smog-forming pollution comparable to driving a new passenger car for hundreds of miles. They are also loud: the CDC reports that more than 1 in 8 children ages 6–19 already have hearing damage from loud noise, and repeated exposure can permanently harm hearing. Leaf-blower exhaust and noise can affect workers, residents, pets, birds, and neighborhood quality of life. In response, Millburn adopted a seasonal ordinance restricting use of gas-powered leaf blowers during part of the year.

Primary reference materials link:

<https://twp.millburn.nj.us/DocumentCenter/View/15895/Ordinance-2707-25-Seasonal-Restriction-on-Gas-Powered-Leaf-Blowers----Public-Hearing-7152025>

Student Deliverables

- 90-Second Video – Create a TikTok- or Instagram-style video that explains the purpose of the Millburn ordinance and encourages community support and compliance.
- Educational Poster – Design a poster that clearly lays out the rules of the ordinance in a simple and easy-to-follow and remember way.

Ideas to Explore

- How do gas-powered equipment contribute to air pollution?
- How does excessive noise affect daily life and neighborhood well-being?



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- Why may communities shift toward electric landscaping tools?
- How can a student-made message help residents understand and adopt a new ordinance?
- Should Millburn consider expanding this seasonal ban like Montclair and some other towns in New Jersey?

Suggested resources for reference

[California Air Resources Board – Small Engine Fact Sheet](#)

[Research — Quiet Montclair](#)

Level 3 – High School (Grades 9–12)

Millburn High School Sustainable Athletic Fields Design Challenge

Millburn Township and the Board of Education are considering converting two Millburn High School fields to synthetic/hybrid turf. MHS students are invited to study the proposal and recommend practical alternatives to synthetic/hybrid turf that would address Millburn athletic field availability concerns while not creating environmental or public health externalities. Using the township plans and resources provided below on natural sports-field design and management, students should explore how nature-based solutions, such as engineered natural grass, improved grading, drainage, irrigation, sand-capping, field rotation, and other field-management upgrades—could improve durability and playable hours while responding to local rain, heat, snow, flooding, and maintenance conditions. The goal is to produce actionable strategies tailored specifically to Millburn. You could use the links below to research the topic broadly and interview with experts widely, however the solution that you present must be Millburn specific.

Primary reference materials link: [Millburn Township Proposed HS Field Project](#)

Student Deliverables

- 3-Minute Video – Record a persuasive video that explains why Millburn should consider nature-based alternatives before converting the two proposed fields to artificial turf, and present the most practical solution for local conditions.
- Multimedia Presentation – Use slides, diagrams, charts, renderings, or other visuals to support your argument and design solution.

Key Areas to Analyze

- What problems is Millburn township and BOE trying to solve—such as field wear, drainage, scheduling pressure, or maintenance challenges? How local rain, heat, snow, flooding, and seasonal use affect drainage, durability, safety, and playable hours?
- Which nature-based solutions could realistically work in Millburn? Using local site conditions—propose specific design and management strategies such as engineered natural grass, drainage upgrades, irrigation, sand-capping, aeration, overseeding, field rotation, and green infrastructure?
- What are some other issues to consider in choosing the type of turf—stormwater management, heat island effects, aesthetics, PFAS contamination, microplastics, water usage, athlete safety and community well-being?



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Suggested resources for reference:

https://www.veronanj.org/media/Council%20Docs/2024/CENTENNIAL%20FIELD%20Final%20Report_AUGUST%202024.pdf

<https://mountsinaiaexposomics.org/position-statement-on-the-use-of-artificial-turf-surfaces/>

<https://theturfgrassgroup.com/bermuda-grass/why-sports-fields-are-ditching-synthetic-turf-for-smart-natural-solutions/>

[Millburn Environmental Commission Resolution- Artificial Turf](#)

Additional practical references (you may use your own references too):

LandTek builds the field, Tuckahoe supplies the sod, and Rutgers provides the technical science behind species and rootzone decisions. This three-party structure is what produced the Red Bulls Arena pitch, one of the best-documented examples of engineered natural grass at professional level in NJ/NY.

LandTek Group — www.landtekgroup.com

LandTek has grown from a small Long Island establishment concentrating on natural grass athletic fields to a \$200 million company with a \$100 million bonding capacity, serving professional clients including the NY Jets, NY Giants, Philadelphia Eagles, NY Mets, NY Red Bulls, NYCFC.

Tuckahoe Turf Farms tffarms.com — Primary Sod Supplier to Red Bulls, NYCFC, NY Mets, Rutgers, US Capitol, National Mall, 9/11 Memorial, and many NJ/NY institutions

Rutgers Center for Turfgrass Science turf.rutgers.edu

Research & Technical Support for NJ-specific cool-season species research, drainage guidance, and rootzone specifications. Available for consultation on field design, species selection, and soil spec for NJ climate conditions — a resource that the vendors above both rely on.

1. Sports Illustrated Stadium — Harrison, NJ (New York Red Bulls)

The flagship proof of concept in the region. Red Bull Arena pitch maintenance, led by Neal Sitzman, maintained the same surface since 2012, implementing a new grass surface for the start of the 2022 MLS season. The field features underground drainage, undersoil heating, and engineered sand-based rootzone — all built by LandTek Group. Two-time STMA Professional Soccer Field of the Year (2018, 2021). Currently active, natural grass, in professional play.

2. RWJBarnabas Health Red Bull Performance Center — Morris Township, NJ (Active/Current)

The most current NJ project in the database. Red Bull New York has announced a partnership with LandTek Group to deliver new natural grass and synthetic turf surfaces at the club's training complex — the RWJBarnabas Health Red Bull Performance Center, the club's primary training base used by both first-team and academy programmes. This was announced within the last week (March 2026). Natural grass fields are included in the build. Previously, LandTek completed the Red Bull training facility in Hanover, NJ — a state-of-the-art practice field consisting of a natural sand-based



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bluegrass sod playing surface, with retaining walls, irrigation system, and perimeter fence with ball stopper netting.

Submission Format

Each entry must include a project video uploaded to YouTube and submitted as an UNLISTED link so judges can review the entry. Students should follow the medium and time limit for their level. In addition, students will submit the required additional deliverables noted for their respective level.

[CLICK HERE](#) for submission link.

Judging Criteria

Judges

Projects will be evaluated by subject matter experts along with members of the Millburn Environmental Commission, PTOC Green Teams, and Millburn Climate Action.

Judges reserve the right to select or decline winning entries based on criteria alignment.

Evaluation Rubric

(Total Possible Score: 50)

Criteria	Elementary	Middle School	High School
Clarity of Message	10	10	5
Creativity / Originality	10	10	5
Understanding of Issue	10	10	15
Technical / Analytical Depth	5	5	15
Quality of Presentation	15	15	10

Prizes

Elementary Grades K-4

1st - Gift Card, Medal & Certificate of Achievement
2nd - Medal & Certificate of Achievement
3rd - Medal & Certificate of Achievement
4th & 5th - Certificate of Achievement

Middle School Grades 5-8

1st - Gift Card, Medal & Certificate of Achievement
2nd - Medal & Certificate of Achievement
3rd - Medal & Certificate of Achievement
4th & 5th - Certificate of Achievement

High School Grades 9-12

1st - Gift Card, Medal & Certificate of Achievement
2nd - Medal & Certificate of Achievement
3rd - Medal & Certificate of Achievement
4th & 5th - Certificate of Achievement

Eco-Bee

One entry per grade will also be recognized as the annual Eco-Bee.



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Rights

In submitting this entry to the Millburn STEAMFest the students and parents/guardians give the Millburn Public School System, The Millburn Education Foundation, and the Millburn STEAMFest unlimited rights to use their entry i.e., video, or any portion thereof, for screenings and in promotional materials at any time, and to publish in print, electronic, or digital form in perpetuity. By submitting this entry the students and parents/guardians further agree that the Millburn Public School System, the Millburn Education Foundation, and the Millburn STEAMFest have the right to use their name and entry for public relations, public information, student recognition or awards, instruction, and distribution where the proceeds of such publication benefit the Millburn Public School System, The Millburn Education Foundation, or the Millburn STEAMFest.