|  |
| --- |
| School Green Team Start-Up Guide |
| 2018 |
|  |
|  |
|  |

|  |
| --- |
| By being part of a green team, your students will become stronger advocates and environmental stewards in their school. Creating a green team is one of the easiest ways to reduce the environmental impact of your school’s operations and activities and promote sustainability. This guide outlines best practices, helpful tips, and sample activitites for a green team to do to get started. |



# Introduction

This handbook will help you design, plan, and effectively execute the implementation of a green team in your school or community. Designed for teachers and students, this handbook is a comprehensive guide that steps through each part of creating a green team, from recruitment to activity planning, and everything in between.

As you proceed through the handbook, you’ll find answers to questions about sustainability, environmental education, and green team planning, such as:

* What is a green team?
* How can I get my students engaged with sustainability programs?
* Why should I want to be involved in a green team?
* How can I organize sustainable activities?
* Who should I talk to about sustainability in my community?

Also included are frequently asked questions and multiple appendices, such as a contact list for sustainability and operations officers in each Tennessee county, a sample green team plan with model bylaws, project dashboards, and grant applications, and a list of helpful links and activities to get your green team started.

Being a part of a green team or being at a school with a green team has many benefits from cost savings from energy and water use reductions, to increased science and math skills, to enhanced student leadership and activism, and even recognition from your community, city, or state for your accomplishments.

Contents

[Introduction 1](#_Toc17183291)

[What is Sustainability? 3](#_Toc17183292)

[FAQs 4](#_Toc17183293)

[What is a green team? 4](#_Toc17183294)

[Why should I want a green team in my school? 4](#_Toc17183295)

[How do I begin to set up a green team? 4](#_Toc17183296)

[What should my green team do? 5](#_Toc17183297)

[Who should be a part of my green team? 5](#_Toc17183298)

[When should my green team meet? 5](#_Toc17183299)

[Who is in charge of my green team? 5](#_Toc17183300)

[What is the mission of my green team? 5](#_Toc17183301)

[What are the rules of my green team? 5](#_Toc17183302)

[How should I get more information about recycling, composting, or being more sustainable in my community? 5](#_Toc17183303)

[Launching a Green Team 6](#_Toc17183304)

[Step 1: Identify Support from School Leadership 6](#_Toc17183305)

[Step 2: Establish Your Team 6](#_Toc17183306)

[Step 3: Define a Mission 7](#_Toc17183307)

[Step 4: Draft Rules 7](#_Toc17183308)

[Step 5: Activity Planning 8](#_Toc17183309)

[Step 6: Share Your Message 9](#_Toc17183310)

[Sustaining a Green Team 11](#_Toc17183311)

[Step 7: Recruitment 11](#_Toc17183312)

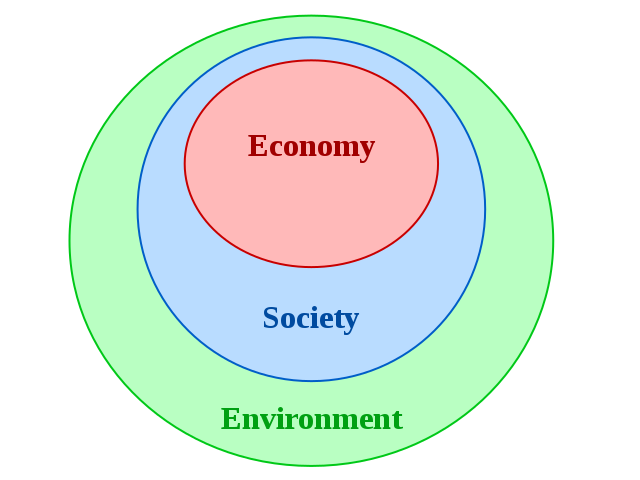
[Step 8: Service and Outreach 11](#_Toc17183313)

[Step 9: Determining Whether to Fund Your Team 12](#_Toc17183314)

[Step 10: Establish Long-Term Goals 14](#_Toc17183315)

[Acknowledgements and References 17](#_Toc17183316)

# What is Sustainability?

Sustainability is a broad term that often means different things to different organizations and people. The National Environmental Policy Act of 1969 defined sustainability as “conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations[[1]](#footnote-1).”

In the United States, the Environmental Protection Agency (EPA) is the federal agency charged with developing and implementing regulations that protect human health and the environment. For the state of Tennessee, the Tennessee Department of Environment and Conservation (TDEC) is the lead agency tasked with overseeing the protection of human health and the environment.[[2]](#footnote-2) Sustainability as a concept is not always incorporated by name in regulations overseen by EPA and TDEC; however sustainability is the essence of all environmental regulations and voluntary programs administered by these agencies.

Sustainability has 3 elements: environment, society, and economy[[3]](#footnote-3)[[4]](#footnote-4). All three of these are equally important and interdependent – no action can be truly sustainable unless the societal, economic, and environmental benefits and costs are balanced. The most sustainable solution combines all three elements.

In simpler terms, sustainability can be thought of as a combination of two words: “sustain” and “ability.” Sustainability is the ability to sustain, which means keep going; therefore, sustainability is the power to keep something going. In the traditional sense, sustainability is the power to keep our planet healthy, ensuring the success of future generations without compromising our own.

# FAQs

## What is a green team?

A green team is a group of students, teachers, and administrators who are committed to working together to make your school more sustainable. Green teams incorporate student, parent, and faculty voices, along with input from the community. In Tennessee, a number of schools have already formed green teams to do their part in reducing our state’s environmental footprint, ensuring a safe and healthy learning environment, and implementing school district and state-level sustainability guidelines. It’s critical for your green team to build awareness, gain partners, and promote commitment.

Green teams, started by students or teachers at schools, can empower students to help the environment through learning about sustainability – students can perform activities that relate to waste reduction, reuse, recycling, food waste, water conservation, pollution prevention, energy conservation, and health maintenance. A green team at your school will serve as a conduit for information from TDEC and local government sustainability initiatives and offices, as well as a structure for sustainability activities at school.

Examples of schools with a Green Team:  
- Lipscomb Academy Elementary School  
- Humme Fogg

## Why should I want a green team in my school?

Green teams have tons of benefits! First, green teams can empower students, making them more effective advocates for change. Being part of a green team can foster a student’s leadership and peer mentoring skills; it can also give students a sense of responsibility and a first-hand look at the impacts of volunteering and service work. To incentivize teachers to join your green team, pitch it as a way to build a community and help the school – making your school more sustainable helps the earth, and it will make your school better! Finally, the greater school community should know that your green team is helping the environment by recycling, reducing greenhouse gas emissions, and helping to achieve Tennessee’s 25% waste diversion. Depending on which sustainability practices are implemented, there may also be associated financial benefits.

## How do I begin to set up a green team?

Each of the following steps is addressed in more detail in the “Beginning a Green Team” section of the handbook.

Before you do anything related to set-up, you need to **establish your team.** Recruit students, teachers, and administrators who you think will be receptive to your message. After you get a team together, **define your mission.** This is a sentence or two that outlines conclusively what your green team’s goals are. Next, **draft rules.** Also known as bylaws, they will define what your green team wants to do, where it wants to operate, how often it wants to meet, and other procedural issues like that. After you have put together a team, a mission, and some rules, you’re ready to **plan activities!** This is often the part that people think of when they imagine a green team’s work – creating recycling programs, hosting food drives, and sponsoring other sustainable activities around your school.

After you do your first event, try to **share your message** by writing a blurb to be published in your newspaper or school newsletter. Finally, **keep working to sustain your team.** You’ve done a great job getting students, teachers, and community members involved so far, and it can only grow from here.

## What should my green team do?

Green teams often perform service activities that have to do with sustainability. Find a local nonprofit program or organization that is already established in your community to volunteer with, or run your own events! These could include recycling drives, public information campaigns, waste audits, screening of environmentally related films, and many others. Outside of events, green teams serve as a voice within the school - they can identify opportunities for making your school more sustainable, such as launching a recycling program, instituting share tables in your cafeteria, and switching to more energy efficient light bulbs, among others.

## Who should be a part of my green team?

Students should be the focus of your green team, but you will need more than just students to have a successful one. Make sure to recruit faculty members to help run the green team, as well as an administrator and someone in the custodial staff. Consult the directory of energy managers, grant managers, and sustainability managers if you are unsure of who to contact – all of these people in your county’s central school office are good people to involve with your green team along with teachers and students from your school.

## When should my green team meet?

Your green team should meet at a date and time that is outlined in your bylaws and convenient for the majority of team members. Often, green teams meet once a week or once every other week. Teams that meet on a regular basis are the most successful, because they are able to coordinate often to put on events more frequently.

## Who is in charge of my green team?

Generally a faculty sponsor or administrative sponsor is ultimately in charge of your green team; however, for older students, leadership positions should be established in the bylaws.

## What is the mission of my green team?

After putting together your green team, you should define a mission specific to your school’s environmental goals at the first green team meeting.

## What are the rules of my green team?

After putting together a team and defining a mission, you should write a set of rules, also known as bylaws, within your first couple of meetings.

## How should I get more information about recycling, composting, or being more sustainable in my community?

At the end of this guide, there is a contact directory with the names, phone numbers, and emails of people across the state who coordinate sustainability for communities. Reach out to them, and ask them to help you! You can also reach out to the Tennessee Department of Environment and Conservation’s Office of Policy and Sustainable Practices: <https://www.tn.gov/environment/program-areas/opsp-policy-and-sustainable-practices.html>.

# Launching a Green Team

One of the most direct ways students can affect the sustainability of their school and community is through establishing a green team: a group of students, teachers, and administrators who are committed to working together to make your school more sustainable. There are several critical steps to consider when you’re first starting a green team. Doing these things, in order, will allow your team to develop and grow to the best of its ability, while also staying fun and true to its original goals.

## Step 1: Identify Support from School Leadership

Your team will need school-wide support. Ask leadership for their support and identify sponsors and faculty advisors. Your sponsor should be a teacher or faculty/staff member who is interested in – and possibly has expertise in – sustainability. It’s also critical to gain support of facility maintenance staff as their role is critical to following through with sustainable waste, energy, and water usage. When identifying sponsors and other supportive individuals, you should provide a list or outline of meetings and activities so they are aware of expectations and the estimated total time commitment. This may look like a list a weekly meetings and an event every 6 weeks.

## Step 2: Establish Your Team

To establish your team, recruit students, teachers, and administrators who you think would be interested in being a part of a green team and who would be good advocates for sustainability. Host an introductory meeting; when hosting a meeting make sure to put out flyers that clearly state what the green team is and where and how long it will be meeting. During the introductory meeting, outline roles and responsibilities of team members and anticipated time commitment. Also, recruit students personally who you think would be great assets to your team, rather than letting them decide to come.

Make a list of students, teachers, and administrators who are interested in joining the team:

|  |  |
| --- | --- |
| **Students** |  |
| **Teachers/Faculty** |  |
| **Administrators** |  |

## Step 3: Define a Mission

Once you’ve recruited members of faculty, staff, and students for your green team, define your mission together. Your mission is a sentence or two that outlines conclusively what your green team’s goals are. For example, the mission of Disney is “to be one of the world’s leading producers and providers of entertainment and information. Using our portfolio of brands to differentiate our content, services and consumer products, we seek to develop the most creative, innovative and profitable entertainment experiences and related products in the world.”

Your mission should incorporate some basic goals. Try to answer some of these questions with your team to get started:

* What do we want our green team to do?
* What should we focus on: energy, waste diversion, water conservation, air pollution…?
* How can we measure our impact?
* Do we have a long-term goal?
* When do we want to complete this goal?

Also, you may want to try adapting the mission of a pre-existing sustainability or environmental organization. A good start for a mission could be:

*“The mission of the Tennesseetown Middle School Green Team is to promote environmental stewardship and sustainability through \_\_\_\_\_\_\_. We want to specifically focus on \_\_\_\_\_\_, and we want to achieve \_\_\_\_\_\_\_\_\_ by \_\_\_\_\_\_\_\_\_.”*

Brainstorm and draft your mission:

|  |
| --- |
|  |

## Step 4: Draft Rules

Once your mission is defined, it’s time to set up your rules or “bylaws.” Your bylaws will define what your green team wants to do, where it wants to operate, how often it wants to meet, and other similar procedural issues. Putting together a set of bylaws that members collectively agree to adopt at one of your first green team meetings can help everyone feel like they are involved and establish expectations among green team members.

Brainstorm what other procedural issues the bylaws could cover:

|  |
| --- |
|  |

As a part of your bylaws, establish some leadership positions. In an elementary school setting, these can be teams that students divide into, like the recycling team, the energy team, and the compost team. In a more advanced environment, establish a president, vice-president, treasurer, and secretary, and give each position express responsibilities within the bylaws of your green team.

Start your bylaws with your mission, and arrange them in this format:

ARTICLE I PURPOSE

Section I. Our Mission.

Section II. Our Goals.

Continue to write your bylaws in this format. Be sure to include articles that detail membership privileges and responsibilities, leadership positions, elections, and powers, and meeting times, frequencies, and locations.

## Step 5: Activity Planning

After you have identified a sponsor, put together a team, a mission, and some rules, you’re ready to get involved!This is often the part that people think of when they imagine a green team’s work – creating recycling programs, hosting food drives, proposing administrative or operational changes that reduce environmental impacts, and sponsoring other sustainable activities around your school. When you host programs, make sure that a team member is available to record the activity of students in your school, because measuring overall impact and progress is extremely important.

Look back at your green team’s mission. What were some of the issues your team was most interested in tackling in your community? Work with your team to brainstorm project ideas for two of your big issues below:

|  |  |
| --- | --- |
| **Issue 1:** |  |
| **Issue 2:** |  |

As part of your brainstorming process, make sure that you have:

* A project leader
* A set date, time, and place for your event
* A way to record data from your event (surveys, measurement, interviews)
* Optional: Alignment with the TN State Standards[[5]](#footnote-5)[[6]](#footnote-6)

Next, actually carry out your event! Follow the plan that you’ve created on this page.

## Step 6: Share Your Message

After your first event, try to write a blurb for your local newspaper, school website or social media pages, or school newsletter, which will help your green team gain exposure. A green team’s success is directly correlated to its exposure – if more people are familiar with your team and its goals, they are likely to be more receptive to and supportive of programs and activities that you put on in the future. Consider creating social media accounts for your green team – Instagram and Twitter are the most useful, but Facebook may also be a helpful tool to spread your message.

Along with publicity, you want to spread the word about the amazing job that your team is doing, which is why your team recorded information about their first activity. Using that data, make graphs, charts, and tables – think about tracking your school’s energy use before and after an energy reduction project, for example. Creating graphics for your community allows students to show off their work and realize how much of an impact they’re making.

Make sure to keep everything in perspective. Your students should be familiar with what a kWh of electricity is (10 hours of TV), or a gallon of water (8 glasses of water), or a pound of trash. If you reduce the trash footprint of your school by 400 pounds, that’s the weight of a tiger! If you reduce it by 4000 pounds, that’s the weight of an elephant! Making graphics that incorporate units of measure that students are already familiar with is a great tool to help them realize the scope of their impacts.

|  |  |
| --- | --- |
| **Measurement** | **Equivalent** |
| **100 gallons of water** | **2.5 bathtubs full of water** |
| **500 pounds of trash** | **The weight of 1 pig** |
| **5 kWh of electricity** | **5 TVs running for 10 hours each** |

# Sustaining a Green Team

Now that you’ve created an amazing green team, established your mission, written a set of bylaws, planned and executed your first activity, and reported your progress to your community – now, it’s time to start planning for next year’s green team. Ask yourself a few questions before you continue:

* Are the students in my green team interested in participating next year?
* Are the students in my green team close to graduating, or moving schools?
* What funding does my green team need next year? Do I have a steady source of funding for my green team?
* Does my green team have a long-term plan, or long-term goals?

If you and your students reach a mutual agreement on continuing your green team, there are a few more steps to go through to ensure that it is well-prepared for the future, including securing funding, creating a service outlet, working on recruiting new members, and establishing concrete goals for the next few years.

## Step 7: Recruitment

This step goes back to the first two questions that you answered about sustaining your green team. If the students on your green team are mainly upperclassmen or are leaving the school next year, the team needs to ensure that new members are recruited and brought into the fold. Recruitment for the next school year should begin no later than March, but preferably earlier – if you start early, people usually don’t have prior commitments that make them unable to participate.

When recruiting new members, be sure to maintain the principles that guided the recruitment of the original cohort. Encourage participation of students from varied backgrounds, with differing perspectives on environmental issues. Although recruitment is difficult, it can be done in conjunction with activities – simply have members of your green team active at your events, asking other students if they’d like to join! You may also consider opening up green team meetings later in the year so that potential recruits can see how your team operates and what it actually does.

Consider these recruitment strategies:

* A recruitment coordinator at your events
* Interest meetings
* Open green team meetings later in the year
* Posters, flyers, and brochures about the benefits of joining a green team
* Personally asking students to join the team

## Step 8: Service and Outreach

The next part of your green team’s development is service. Along with educating the school by hosting recycling drives, food waste activities, and energy conservation events, your team should volunteer in the community so that it can become more environmentally conscious. Service is just another type of outreach, so your students can be engaged and teaching others about sustainability while doing something good for their community.

Consider joining service events that focus on the environment, if they exist. If they don’t, reach out to your community’s public works, water, or recycling departments, a local or state park in your area, or a local sustainability non-profit[[7]](#footnote-7): they would love help spreading the word about sustainability! Brainstorm possible projects to join and create below:

|  |  |
| --- | --- |
| **Projects to Join** |  |
| **Projects to Create** |  |

It’s important to remember to give back to your community – it allows community members to see what a great organization your team is and the hard work your students have put into promoting and advancing sustainability. Also, giving back is critical to securing funding, a key part of sustaining your green team, and the focus of the next step.

## Step 9: Determining Whether to Fund Your Team

Understanding what resources and supplies your green team needs to succeed is one of the most important steps to securing its future. For example, you may need access to financial resources to fund your team – either through external or internal sources; you may need access to supplies to support your projects, such as gloves, trash and recycling bags and receptacles; you may need access to technical assistance to support operational recommendations you may make for your school; or you may need a network of local external partners for identifying regular education and outreach activities in the community. Without sufficient resources, your team is unable to participate in or put on events, hold recycling drives, and do all the other awesome things that it’s accomplished over the last year.

If you determine that supplies are necessary, then consider holding a school-wide drive for the item(s), asking local supportive businesses if they could donate the item(s), or working with school administrators or facility managers to secure the item(s). For example, your team may decide to start composting. A few of the more common feedstocks for a compost pile include old newspapers and wood chips or shavings. You could potentially hold a newspaper drive or a wood shavings drive to secure these items that are necessary for the composting process. Your team may also decide that having paper and plastic receptacles in each classroom would help increase the amount of paper and plastic that gets recycled. In this case, you could ask a local retailer like Wal-Mart, Target, Kroger, Dollar General, etc. to donate some of those receptacles. If you determine that technical assistance is necessary, then consider asking school or school district faculty/staff and/or parents if they have expertise in the required area, or reaching out to local supportive businesses or non-profits. Once you have identified qualified/experienced individuals, you can then ask for assistance either through educational resources (identifying a good webpage, book, or tutorial) or hands-on trainings/workshops. For example, your team may decide to do a school-wide waste audit to determine what waste streams are present. Your local County Solid Waste director may be able to provide a workshop for you and a few other students on how to set up a school waste audit and how to sort received materials.

If you determine that financial resources are required to support your green team, there are a few options for funding your green team, and they’re detailed briefly here.

Option 1: Grants

* A grant is a non-repayable sum of money given to your team by another organization, usually a corporation, larger entity, or governmental entity.
* Organizations normally apply for grants, and they require some sort of compliance and reporting of results, usually at 6-month intervals for the term of the grant, which can range from 1-3 years.
* Grants are helpful because they don’t require repayment; however, they do require reporting, and sometimes applications for grant funds can be long and tedious.

Option 2: Donations

* A donation is also a non-repayable sum of money, but donations are normally smaller than grants, given to your team by individuals who would like to support your progress.
* Organizations do not apply for donations, so they aren’t a steady source of funding; however, they don’t require applications or reporting. A donation is a gift of money with no strings attached.

You may want to consider asking companies, non-profits, or individuals for donations.

* There are resources available online to guide you through the process of requesting donations. Two examples are: <https://www.docformats.com/donation-request-letter-for-school-event/> and https://www.ptotoday.com/filesharing/category/142-fundraiser-forms-a-letters.

Option 3: Sponsorship

* Sponsorship asks companies to donate a certain sum, usually annually, in exchange for branding on green team products and potential membership seats.
* Sponsorship could also ask for “in-kind” contribution, which could include a donation of goods, services or time instead of money.
* Sponsorship is a great option for organizations like a green team because they don’t require complex applications – all your team will need to do is contact companies and ask them for sponsorship.
* Potential sponsors may be looking to increase their brand awareness through positive PR, so having their name/logo advertised in association with your team may be beneficial for them.

When choosing what source of funding to use for your green team, keep in mind that grants are not guaranteed – even if you fill out a grant application, you may not be awarded funds. Grants are also restricted funding sources because the funds are often only allowed to be used in very specific ways. When you apply for grants or sponsorship, make sure to include a summary of your green team’s mission, goals, and past activities, as well as a detailed action plan that shows how the funds will be used.

## Step 10: Establish Long-Term Goals

The final step to secure the longevity of your team is to create a planning dashboard – this is a document where your team can establish their goals and keep track of their progress, month by month or year by year. To establish the framework of your planning dashboard, first consider your goals:

* How often do you want your green team to consider projects?
* Should these be mostly service-based, mostly education-based, or somewhere in between?
* Do you want your school or community to have a sustainability mission?
* What other goals do you have for your green team, school, or community?

These questions are called indicators, and you’ll track the progress of your indicators in the planning dashboard. Once you’ve outlined some indicators (student leaders, service projects, education projects, etc.), you’ll need to set targets for your students to hit – set these either monthly or yearly, and then complete the chart below. The first row is completed for you as a guide.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Tennesseetown Middle School Green Team Planning Dashboard** | | | | | | |
| **Tennesseetown Middle School Green Team** | | **2018 – 2019 School Year** | | | | |
| **Indicator** | **Target** | **YTD** | **Fall** | **Winter** | **Spring** | **Summer** |
| Student Leaders | 4 | 3 |  |  |  |  |
| Service Projects |  |  |  |  |  |  |
| Education Projects |  |  |  |  |  |  |

After completing your planning dashboard, keep implementing your goals! Update your dashboard at least 4 times a year, and maintain your mission. Keep track of funding, projects, and recruitment – make sure that your green team is organizationally and operationally sustainable. Consult the FAQs and Appendix B in this handbook for more information.

# Acknowledgements and References

This handbook is designed similarly to those published by the Tennessee Dept. of Environment and Conservation and the Tennessee Manufacturing Extension Program, both of which collaborated on a guide to writing waste reduction plans, which was used while developing this resource. Some activities are based on those developed by The Green Team, a program of the Massachusetts Department of Environmental Protection and the Massachusetts Executive Office of Energy and Environmental Affairs. School waste reduction plans are based on those in effect in New York City Public Schools under the guidance of GrowNYC, a collaborative program of Greenmarket and the New York City Department of Education. Some activities are sourced from those developed during collaboration between Urban Green Lab and the School for Science and Math at Vanderbilt. Bylaws are based on those of the Special Olympics. Grant applications and guidelines are based on presentations by Vicki Magsby, Metro Nashville Public Schools Grant Coordinator, and guidelines for the 2018 Project Learning Tree Greenworks! grants. Other guidelines and materials throughout the handbook are based on those set out in the Livable Schools handbook – special thanks to Katie Madole, Sarah Matthews, and Alex Hines for their help developing that guide.

1. Chicago Botanic Garden. “Activity 4.2: Calculating Your Carbon Footprint.” Chicago Botanic Garden, Chicago, IL.
2. Clothing Drive Fundraiser. “One-Time Events.” *Clothing Drive Fundraiser*, Synergy In-Kind Donation Management, clothingdrivefundraiser.com/one-time-events/.
3. “Governance and Finance.” Special Olympics, Special Olympics, www.specialolympics.org/Common/Governance\_and\_Finance.aspx.
4. “The Green Team.” The Green Team , Massachusetts Department of Environmental Protection, thegreenteam.org/.
5. “GrowNYC's Environmental Education Programs.” Union Square Greenmarket Monday, GrowNYC, www.grownyc.org/education.
6. James, Paul. Urban Sustainability in Theory and Practice: Circles of Sustainability. Routledge, 2015.
7. Project Learning Tree. “GreenWorks Grants.” Project Learning Tree, Sustainable Forestry Initiative, www.plt.org/resources/greenworks-grants/.
8. Writing a Waste Reduction Plan. Tennessee Manufacturing Extension Program, 1999, Writing a Waste Reduction Plan.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| County | Name | Department | Position/Entity | Email | Phone |
| Anderson | Clay McKamey | Maintenance | Environmental Coordinator | cmckamey@acs.ac | (865) 457-2519 |
| Anderson | Geoff Trabalka | Waste | Solid Waste Coordinator | gtrabalka@andersontn.org | (865) 463-6845 |
| Bedford | Diane Forbes | Waste | Solid Waste Coordinator |  | (931) 684-4651 |
| Benton | Brandon Parker | Maintenance | Maintenance Supervisor | brandon.parker@bcos.org | (731) 584-7254 |
| Bledsoe |  |  |  |  |  |
| Blount | Rick Morgan | Waste | Custodial Manager | [rick.morgan@blountk12.org](mailto:rick.morgan@blountk12.org) | (865) 984-1212 ext. 72-2109 |
| Blount | Charlie Ferguson | Waste | Recycle Operator | [cferguson@blounttn.org](mailto:cferguson@blounttn.org) |  |
| Bradley | Andy Lockhart | Parks | Director of Parks | alockhart@bradleycountytn.gov | (423) 728-7035 |
| Bradley | Johnny Mull | Energy | Energy Manager |  | (423) 476-0620 ext. 2029 |
| Campbell | Karen Smith | Maintenance | Maintenance Supervisor | Karen.smith@ccpstn.net |  |
| Campbell |  | Waste | Environmental Services Dept. |  | (423) 562-1811 |
| Cannon |  | Waste | Cannon County Convenience Center |  | (615) 563-4922 |
| Carroll | Randy Crossett | Public Works | Public Works Director | huntingdoncityhall@huntingdonch.com | (731) 986-2911 |
| Carter | Philip Nave | Buildings | Building and Grounds Supervisor |  | (423) 547-4053 |
| Carter | Benny Lyons | Waste | Landfill Manager | landfill@cartercountytn.gov | (423) 543-6626 |
| Cheatham | Mike Mangrum | Waste | Cheatham County Solid Waste |  | (615) 792-7538 |
| Cheatham | Cal Blacker | Maintenance | Maintenance/Custodial Supervisor | Cal.Blacker@ccstn.org | (615) 746-1393 |
| Chester | Danny Benard | Waste | Director of Solid Waste | dannybenard@att.net | (731) 989-9855 |
| Chester | Amber Greene | Waste | Recycling Coordinator | agreene@chestercountytn.org |  |
| Claiborne |  |  |  |  |  |
| Clay |  |  |  |  |  |
| Cocke | Ronnie Allen | Waste | Landfill Superintendent |  | (423) 623-6498 |
| Coffee | Brent Carter | Public Works | Public Works Director | bcarter@cityofmanchestertn.org | (931) 728-6903 |
| Crockett | Bryan Woodruff | Maintenance | Maintenance Supervisor | Email through website |  |
| Cumberland | Mary Kington | Maintenance | Maintenance Director | Email through website | (931) 484-5763 |
| Davidson | James Reid | Energy | Energy Manager | james.reid@mnps.org |  |
| Davidson | Kelly Tipler | Waste | Waste Reduction Manager | kelly.tipler@nashville.gov | (615) 880-2419 |
| Decatur | Nelda Pritchard | Parks | Parks Director | neldap@charter.net | (731) 847-6225 |
| Dekalb | Danny Green | Waste | Dekalb County Landfill |  | (931) 761-5588 |
| Dickson | Gerald Clifton | Maintenance | Maintenance Coordinator | gclifton@dcbe.org | (615) 740-5934 |
| Dyer | Mr. John Monroe | Maintenance | Maintenance Supervisor | Email through website | (731) 286-6328 |
| Fayette | Avis Wright | Maintenance | Director of Maintenance | Email through website |  |
| Fayette | Charles Traylor | Waste | Director of Solid Waste | [chtraylor@bellsouth.net](mailto:chtraylor@bellsouth.net) | (901) 465-5230 |
| Fentress | Robert Cooper | Maintenance | Director of Maintenance | robert.cooper@fentressboe.com |  |
| Franklin | Bradley Moss | Maintenance | Maintenance Director | bradleymoss@fcschools.net |  |
| Gibson | Charles Salles | Buildings | Building and Grounds Supervisor | csalles@gcssd.org |  |
| Giles | Mike Watson | Maintenance | Maintenance Supervisor |  |  |
| Grainger | CH Dalton | Maintenance | Maintenance Supervisor |  | (865) 828-4265 |
| Greene | Steve Tipton | Energy | Energy Specialist | steve.tipton@gcstn.org |  |
| Grundy | Jeff Sholey | Maintenance | Maintenance Supervisor | Email through website | (731) 692-5406 |
| Hamblen |  | Maintenance | Hamblen County Schools Maintenance |  | (423) 587-4800 |
| Hamilton | Justin Witt | Maintenance | Maintenance Director |  | (423) 498-7255 |
| Hamilton | Greg Higgins | Energy | Energy Manager |  | (423) 498-7271 |
| Hancock | Lee Johnson | Public Works | Public Works Supervisor |  | (423) 733-2254 |
| Hardeman | Randy Hill | Maintenance | Maintenance Supervisor | hillr4@hardemancountyschools.org |  |
| Hardin |  | Waste | Hardin County Solid Waste |  | (731) 925-9943 |
| Hawkins | Shannon Glass | Maintenance | Director of Maintenance |  | (423) 272-8551 |
| Haywood | Tyler Howell | Maintenance | Maintenance Director | tyler.howell@hcsk12.net |  |
| Henderson | Jacky Maness | Waste | Director of Solid Waste |  | (731) 845-4925 |
| Henry | Ronald Watkins | Waste | Director of Solid Waste | hcsolidwaste@bellsouth.net | (731) 641-0018 |
| Hickman | Mike Plunkett | Maintenance |  | Mike.Plunkett@hickmank12.org | (931) 729-3391 ext. 2240 |
| Houston |  |  |  |  |  |
| Humphreys | Rick Owens | Maintenance | Maintenance Supervisor |  | (931) 296-2568 ext. 2238 |
| Jackson |  |  |  |  |  |
| Jefferson |  | Maintenance | Maintenance Department |  | (865) 397-3436 |
| Johnson |  |  |  |  |  |
| Knox | Chris Towe | Maintenance | Director of Maintenance | chris.towe@knoxschools.org | (865) 594-3633 |
| Knox | Patience Melnik | Waste | Solid Waste Director | pmelnik@knoxvilletn.gov | (865) 215-4311 |
| Lake |  |  |  |  |  |
| Lauderdale | Donnie York | Maintenance | Director of Maintenance | [Dyork@mail.lced.net](mailto:Dyork@mail.lced.net) |  |
| Lawrence | Gary Wayne Hyde | Waste | Solid Waste Department |  | (931) 766-4469 |
| Lewis | Tony Bailey | Waste | Solid Waste Director |  | (931) 796-6058 |
| Lincoln | Ricky Bryant | Maintenance | Supervisor of Maintenance | rbyant@lcdoe.org |  |
| Loudon | Chris Parks | Waste | Loudon Convenience Center |  | (865) 458-8536 |
| Macon | Randy Robinson | Maintenance | Maintenance Supervisor | Email through website | (615) 666-4970 |
| Madison | Allen Powell | Facilities | Operations/Facilities Manager | kapowell@jmcss.org |  |
| Madison | Chris Johnson | Maintenance | Maintenance Supervisor | cnjohnson@jmcss.org |  |
| Marion | Ronnie Webb | Waste | Director of Streets & Sanitation |  | (423) 942-3180 |
| Marshall | Vicki Veatch | Maintenance | Maintenance Director | veatchv@k12marshalltn.net |  |
| Maury | Mike Sweeney | Waste | Director of Solid Waste | MSweeney@MauryCounty-TN.Gov |  |
| McMinn |  | Waste | McMinn County Landfill |  | (423) 745-3244 |
| McNairy | Cindy Kennedy | Waste | Director of Solid Waste |  | (731) 645-5909 |
| Meigs | Gene McHone | Maintenance | System Maintenance Supervisor |  | (423) 334-9655 |
| Monroe | Phillip Carroll | Maintenance | Maintenance Supervisor | Email through website | (423) 442-3916 |
| Montgomery | Carlye Sommers | Waste | CMC Green Certification Program | cmsommers@mcgtn.net | (931) 245-1867 |
| Montgomery | Norm Brumblay | Facilities | Facilities Manager | norm.brumblay@cmcss.net | (931) 358-4235 |
| Moore | Steven L. Gatzke | Facilities | Director of Facilities | gatzkesl@lcsedu.net |  |
| Morgan | Jim Aytes | Maintenance | Maintenance Supervisor | aytesj@mcsed.net | (423) 346-3840 |
| Obion | Steve Ladd | Public Works | Public Works Director |  | (731) 885-9601 |
| Overton | Valden Thompson | Waste | Livingston Landfill Supervisor |  | (931) 823-8665 |
| Perry | Anthony Taynor | Maintenance | Maintenance Director | ataynor@tds.net | (931) 589-5918 |
| Pickett |  |  |  |  |  |
| Polk | Charles McClure | Maintenance | Transportation/Maintenance Director |  | (423) 299-0471 ext. 7001 |
| Putnam | Keith Street | Waste | Solid Waste Director | kstreet@putnamcountytn.gov | (931) 528-3884 |
| Rhea | David King | Waste | Sanitation Supervisor |  | (423) 775-1817 |
| Roane | Robert Jones | Maintenance | Maintenance Supervisor |  | [(865) 376-5592](tel:(865)%20376-5592) |
| Robertson | Jimmy Finch | Buildings | Supervisor of Buildings and Grounds |  | (615) 384-0213 |
| Rutherford | Trey Lee | Buildings | Asst. Superindendent for Construction | [leetr@rcs.k12.tn.us](mailto:leetr@rcs.k12.tn.us) | (615) 893-5815 ext. 22027 |
| Scott |  |  |  |  |  |
| Sequatchie |  |  |  |  |  |
| Sevier | Kevin McClure | Maintenance | Maintenance and Facilities | kevinmcclure@sevier.org | (901) 416-9420 |
| Shelby | Anthony Wright | Energy | Energy Manager | wrightaw@scsk12.org |  |
| Shelby |  | Waste | Solid Waste Management Department |  | (901) 636-6866 |
| Smith | David Nixon | Maintenance | Maintenance Supervisor | nixond@smithcoedu.net﻿ | (615) 735-9625 |
| Stewart |  | Waste | Bi-County Solid Waste Management | mcanderson@mcgtn.net | (931) 648-5751 |
| Sullivan | Charles Hubbard | Maintenance | Maintenance Supervisor | charles.hubbard@sullivank12.net | (423) 354-1152 |
| Sumner | Andy Brown | Facilities | Assistant Director for Facilities | Email through website | (615) 451-5255 |
| Tipton | Charlotte Fisher | Operations | Director of Operations | Cfisher@tipton-county.com |  |
| Trousdale | David Cothron | Maintenance | Maintenance and Transportation Supervisor | davidcothron@tcschools.org |  |
| Unicoi |  |  |  |  |  |
| Union | Mike Johnson | Maintenance | Director of Maintenance | johnsonma@ucps.org |  |
| Van Buren | Kenny Baker | Waste | Solid Waste Manager |  | (931) 946-2616 |
| Warren | Russell Pedigo | Maintenance | Maintenance/Food Service Manager | pedigor@warrenschools.com | (931) 668-4022 ext. 254 |
| Washington | Phillip Patrick | Maintenance | Maintenance Supervisor | patrickp@wcde.org | (423) 753-1100 |
| Wayne |  | Public Works | Public Works Department |  | (931) 676-3702 |
| Weakley | Deborah James | Waste | Solid Waste Manager |  | (731) 364-6798 |
| White | Randy Alley | Maintenance | Maintenance Supervisor | randy.alley@whitecoschools.net | (931) 739-2011 |
| Williamson | Mark Samuels | Maintenance | Maintenance Manager | marks@wcs.edu | (615) 472-4974 |
| Williamson | Jennifer Gosciniak | Waste | Recycling Specialist | jenniferg@williamson-tn.org | (615) 786-0166 |
| Wilson | Cindy Lynch | Waste | Wilson County Solid Waste |  | (615) 444-8360 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Statewide | Alle Crampton | TDEC | Environmental Scientist | alle.crampton@tn.gov | (615) 253-1729 |
| Regional | Jason McDonald | EPA | Environmental Education Coordinator | mcdonald.jason@epa.gov |  |

**TENNESSEETOWN MIDDLE SCHOOL GREEN TEAM**

**BYLAWS**

**ARTICLE I PURPOSE**

1. **MISSION.** The mission of the Tennesseetown Middle School Green Team is to promote sustainability and environmental awareness throughout Tennesseetown. We will focus specifically on solid waste and recycling, and would like to divert 25% of the waste of Tennesseetown Middle School from landfills over the next 3 years.

**ARTICLE II MEMBERS**

1. **NUMBER AND ELECTION.** The Tennesseetown Middle School Green Team (“Green Team”) will consist of no less than three (3) and no more than thirty (30) members, not including faculty sponsors, administrative officers, custodial staff, or part-time members.
2. **POWERS OF MEMBERS.** The duties of members shall be to implement the mission of the Green Team throughout Tennesseetown, organizing service and educational events, and managing the funds of the Green Team.Members are subject to removal by a two-thirds (2/3) vote of the Green Team for any reason at any time.
3. **TERM OF MEMBERSHIP.** Members may serve unlimited 1-year terms. The term of a member of the Green Team shall run from August 1 of the present school year to July 31 immediately preceding the next. The term of any member will be renewed automatically on July 31, provided they will remain in school at Tennesseetown Middle School.
4. **MEETINGS OF MEMBERS.** Meetings of the Green Team may be called by the President, Vice-President, Faculty Sponsor, or by any five directors at any time and any place designated in the notice of meeting. Regular meetings will be held twice monthly, on Thursdays from 3:15 PM to 4:15 PM, in the cafeteria of Tennesseetown Middle School.
5. **VOTING AT MEMBERS MEETING.** Each member with voting rights shall be entitled to one vote. Faculty sponsors, administrative officers, custodial staff, and part-time members shall not be entitled to a vote.

**ARTICLE III OFFICERS**

1. **OFFICERS**. The officers of the Green Team shall consist of a President, a Vice-President, a Secretary, and a Treasurer, and may include such other officers as may be deemed necessary or desirable by the Green Team. Each officer shall be elected for a term of one (1) years by the Green Team after nomination and second. No officer may serve more than 2 consecutive 1-year terms in the same position. Offices may not be held by the same person simultaneously.
2. **REMOVAL OF OFFICERS**. Any officer may be removed with or without cause by a two-thirds vote of the Green Team members at a meeting especially called for the purpose thereof.
3. **POWERS AND DUTIES OF OFFICERS.** Each officer shall have such powers and duties as are customarily incident to his or her office and shall have such further powers and duties as the Green Team members shall designate from time to time.
4. **PRESIDENT**. The President shall report to the members, as well as coordinating the publication of 2 biannual reports, one by December 31 and the other by May 31.
5. **VICE PRESIDENT.** The Vice President shall manage members and meetings in the event of the President’s absence or removal from office. The Vice President will also manage, or appoint an officer to manage, each service and outreach event throughout the year.
6. **SECRETARY**. The Secretary shall keep a record of all meetings of the Green Team. The secretary will also coordinate, or appoint an officer to coordinate, recruitment for the coming year.
7. **TREASURER**. The Treasurer will manage the funds of the Green Team. Along with the President and Faculty Sponsor, the Treasurer must sign off on any use of funds by the Green Team.

**ARTICLE IV BOOKS AND RECORDS**

The secretary shall keep complete books and records of account and minutes of the proceedings of the Green Team.

**ARTICLE V AMENDMENTS**

1. **BYLAWS**. The Green Team may amend these Bylaws by two-thirds (2/3) vote at any regular or special meeting with written notice.

**ARTICLE VI RATIFICATION**

These bylaws are effective immediately upon ratification by two-thirds (2/3) of Green Team members, provided all officer positions are filled.

We, the undersigned, are the founding officers and sponsors of the Tennesseetown Middle School Green Team. By affixing our signatures to this document, we hereby certify that these bylaws have been properly ratified, and are put into effect this 15 day of August in the year 2018.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

President Vice-President

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Secretary Treasurer

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Faculty Sponsor Administrative Sponsor

**Activity 1: Waste Reduction Competition**

In this activity, we will set up a competition within Tennesseetown Middle School. There will be 4 teams – 5th grade, 6th grade, 7th grade, and 8th grade, and each will compete individually. Four waste stations will be setup around the school, with the locations in the table below – each grade will weight their waste and recyclables for the next week. At the end of the week, whichever grade has the highest recyclables-to-waste ratio will win the competition.

|  |  |  |  |
| --- | --- | --- | --- |
| **Grade Level** | **Waste Station Location** | **Green Team Monitor** | **Faculty Monitor** |
| 5 | Gym | Angela | Coach Smith |
| 6 | Library | Steven | Ms. Hayes |
| 7 | Front Hallway | Janet | Mrs. Arnold |
| 8 | Cafeteria | Mike | Mr. Lee |

To incentivize participation, we have a prize for the winning grade, which will be an ice cream social the day before fall break. This prize will make all the grades try their hardest to recycle, but we’re worried about people recycling things that they aren’t supposed to. That’s why for the two weeks before this activity, we’re going to be making posters and signs to put on all the recycling bins around the school that tell students exactly what they can and can’t recycle, which should help the competition be fairer.

We also have project leaders – Angela, Janet, Mike, and Steven are leading this activity. They’ve divided up the work so that everyone gets to help out with planning in addition to being a Green Team Monitor at one of the grade-level waste stations. Angela will be leading the overall project and supervising the waste collection. Janet and Mike will be in charge of data collection, calculations, and scoring so that we can determine a winner, and Steven is in charge of creating the posters and signs to put on the recycling bins before the event starts.

To prepare for the event, Steven has prepared a poster that announces what, when, and where the event is, as well as making a poster that shows what can and can’t be recycled in the recycling bins. Janet and Mike have created tables for each grade so that they can calculate totals easily, and Angela has met with the Green Team faculty and administrative sponsors to make sure the school is okay with the event. She also asked several teachers to be Faculty Waste Monitors.

****

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5th Grade Tally Sheet | | M | T | W | Th | F |
| **Line 1** | Waste, in pounds each day |  |  |  |  |  |
| **Line 2** | Total Waste | Sum of Line 1 = | | | | |
| **Line 3** | Recyclables, in pounds each day |  |  |  |  |  |
| **Line 4** | Total Recyclables | Sum of Line 3 = | | | | |
| **Line 5** | Recyclables to waste ratio | Line 4 ÷ Line 2 = | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 6th Grade Tally Sheet | | M | T | W | Th | F |
| **Line 1** | Waste, in pounds each day |  |  |  |  |  |
| **Line 2** | Total Waste | Sum of Line 1 = | | | | |
| **Line 3** | Recyclables, in pounds each day |  |  |  |  |  |
| **Line 4** | Total Recyclables | Sum of Line 3 = | | | | |
| **Line 5** | Recyclables to waste ratio | Line 4 ÷ Line 2 = | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 7th Grade Tally Sheet | | M | T | W | Th | F |
| **Line 1** | Waste, in pounds each day |  |  |  |  |  |
| **Line 2** | Total Waste | Sum of Line 1 = | | | | |
| **Line 3** | Recyclables, in pounds each day |  |  |  |  |  |
| **Line 4** | Total Recyclables | Sum of Line 3 = | | | | |
| **Line 5** | Recyclables to waste ratio | Line 4 ÷ Line 2 = | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 8th Grade Tally Sheet | | M | T | W | Th | F |
| **Line 1** | Waste, in pounds each day |  |  |  |  |  |
| **Line 2** | Total Waste | Sum of Line 1 = | | | | |
| **Line 3** | Recyclables, in pounds each day |  |  |  |  |  |
| **Line 4** | Total Recyclables | Sum of Line 3 = | | | | |
| **Line 5** | Recyclables to waste ratio | Line 4 ÷ Line 2 = | | | | |

Compare each grade level’s results from Line 5. The grade level with the highest recyclables to waste ratio wins the competition and receives the ice cream social! Angela and Steven will be in charge of arranging the ice cream social with the teachers, school, and Ice Cream Company. They have calculated the total cost of the event, which comes out to $125 – this will be paid for through donations that the Green Team already possesses.

**Activity 2: Consumption Measurements**

In this activity, we will gather our utility data to create an energy baseline. For creating an energy baseline, one should gather at least one full year’s worth of utility data. This utility data can be obtained from the utility provider, the county school board, or potentially even your own school’s office. If you contact the utility provider, they can provide utility information going back two years and can be in various formats, from copies of the bills, an Excel file, or even a comma separated value (CSV) file.

We will put the data into a table, then use it to create a graph that shows our electricity and water use for the past year at Tennesseetown Middle School. The graphs will be put up on bulletin boards around the school and put into the school newsletter – this project will be continuous all year. Lucy will be in charge of this project, with help from Sharon and Arthur. Sharon will be contacting the utility services, Arnold will take the data and make graphs, and Lucy will create flyers for the school bulletin boards and an article for the school newsletter.

|  |
| --- |
| Tennesseetown Middle School  123 School Road  Tennesseetown, TN 37383  Tennesseetown Utilities Board  100 Tennessee Blvd.  Tennesseetown, TN 37383  To whom it may concern:  My name is Sharon Williams, and I am in the 8th grade at Tennesseetown Middle School. I am a part of the Tennesseetown Middle School Green Team, which promotes sustainability throughout our school, and we are interested in graphing our school’s water usage.  Will you send me the utility bills from our school for the past year, and continue sending them each month of the coming school year? That would be a great help to the Green Team’s efforts at Tennesseetown Middle School.  Sincerely,  Sharon Williams |

This is a draft of the letter that Sharon wrote to the Tennesseetown Utilities Board, and she will write another similar letter to the Tennesseetown Electrical Service. After receiving the letter, the electrical and utilities services will provide the Green Team with all the school’s energy and water usage data for graphing.

Arthur is handling graphing the data. He received a chart with usage and cost of both water and electricity for the past year from both service providers.

**Tennesseetown Electric Service**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Month** | **J** | **F** | **M** | **A** | **M** | **J** | **J** | **A** | **S** | **O** | **N** | **D** |
| **Usage (kWh)** | 175 | 87 | 100 | 84 | 87 | 121 | 199 | 250 | 222 | 93 | 97 | 81 |

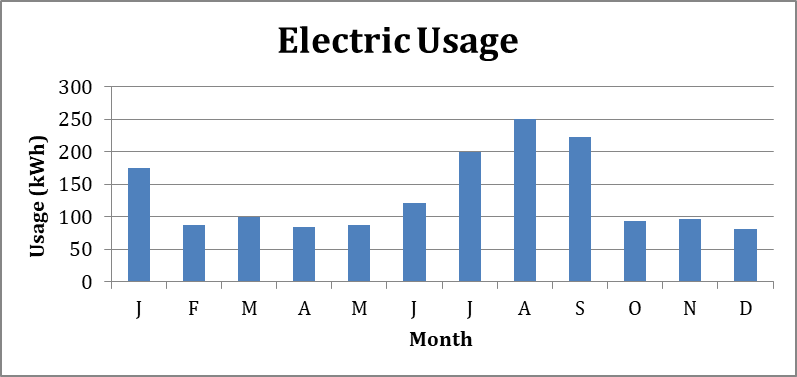
Kilowatt-hour (kWh) is a unit of energy measure equal to 1000 watts expended in 1 hour.

**Tennesseetown Utilities Board**

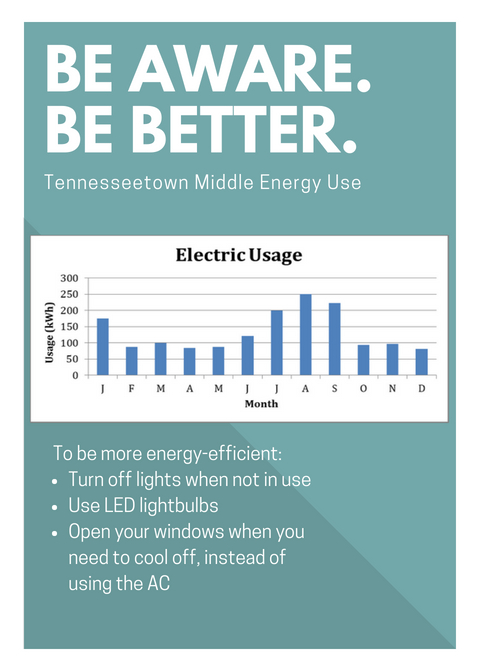
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Month** | **J** | **F** | **M** | **A** | **M** | **J** | **J** | **A** | **S** | **O** | **N** | **D** |
| **Usage (CCF)** | 225 | 206 | 180 | 198 | 211 | 160 | 503 | 295 | 712 | 525 | 266 | 181 |

Centum cubic feet (CCF) is a unit of volume measure equal to 748 gallons.

After putting the data into a graphing program, like Microsoft Excel, Arthur creates these:



Lucy takes the data and uses the graphs to create a poster for the school bulletin boards. It tells people what they’re looking at, as well as telling them what things that they can do to reduce their energy usage.

She also wrote a small article for the school newsletter, which goes out each week to tell parents and students about what’s happening at school.

“This week, the Tennesseetown Middle School Green Team gathered our utility data to create an energy baseline for our school. Thanks to help from Sharon, Arthur, and Lucy, we were able to get both statements and create graphs from them. We used the graphs to make posters that will inform students and teachers about our school’s energy use as well as give them suggestions to be more energy-efficient. We included things such as turning off lights when they aren’t in use and using LED lightbulbs, which last longer and are more environmentally friendly than incandescent bulbs. The energy and water data will continue to be tracked and graphed all year long by the Green Team to highlight the recommended energy improvements compared to our baseline. We are really excited about this opportunity, and we hope you’ll join us in making our school a more sustainable place!”

**Grant Application**

To secure funding for our green team next year, we’ve designed an application that we are submitting for grant funds and corporate sponsorship. It begins with a letter of introduction – this introduces the green team and begins to establish a relationship between the green team and the corporation. We then send over a summary of our team’s mission, goals, and activities thus far, including the financial need we have calculated for the next year.

|  |
| --- |
| Tennesseetown Middle School  123 School Road  Tennesseetown, TN 37383  Sample Corporation  100 Industrial Blvd.  Tennesseetown, TN 37283  Dear Corporation CEO:  My name is Kelsey Adams, and I am in the 8th grade at Tennesseetown Middle School. I am the treasurer of the Tennesseetown Middle School Green Team, which promotes sustainability throughout our school and community. In the interest of sustaining our team, we are reaching out to local businesses and asking them if they would be willing to sponsor an activity, drive, or outreach event with us next year. Your contribution would help the TNMS Green Team reach more students and community members with sustainable programs, which eventually will benefit our community and environment.  We would love to come and meet with you and present our mission statement, goals, and plans for the future. A meeting with a business like yours would help us further our mission, reach our goals, and ensure that the green team continues doing great work.  The Tennesseetown Middle School Green Team would love to have you as a founding sponsor of our organization. If you are interested, please let me know so that we can set up a meeting sometime soon.  Yours,  Kelsey Adams |

As you can see, in her letter Kelsey begins by introducing the Green Team and its mission, which is to promote sustainability throughout the school and community. She then describes the purpose of the letter: to ask if the corporation wanted to sponsor an activity, drive, or outreach event with the team next year. Lastly, she presents the benefits of sponsorship – helping the green team further their goals and mission.

The next part of the grant application is a summary of our green team’s mission, goals, and activities this year, as well as a list of potential activities for sponsorship.

|  |
| --- |
| Dear Corporation CEO,  The following is a summary of our mission, goals, and achievements this year, as well as opportunities for sponsored events next year.  The Tennesseetown Middle School Green Team’s mission is to promote sustainability and environmental awareness throughout Tennesseetown. We will focus specifically on solid waste and recycling, and would like to divert 25% of the waste of Tennesseetown Middle School from landfills over the next 3 years.  We have outlined goals using a planning dashboard, which is attached to this letter. We outlined 4 key areas – operations, school, events, and finances – and made indicators with targets for each area. We aim to reach or surpass all of our targets this year by putting on 4 outreach and 2 service events, getting our school to 25% waste diversion over the next 3 years, and others.  This year, we did a waste diversion competition at school. Four waste stations were set up around the school, and each grade weighed their waste and recyclables for the next week. At the end of the week, whichever grade had the highest recyclables-to-waste ratio won the competition’s prize, an ice cream social.  Next year, we are looking to perform a waste audit at our school (estimated cost $200), do an end-of-the-year recycling drive (estimated cost $50), and begin a food waste and composting program (estimated cost $400). We would appreciate your sponsorship of any of these events, and we would love to have you at green team meetings a few times a year to give you updates about the use of your sponsorship funds.  Thank you,  Kelsey Adams |

Kelsey includes the mission and goals of our team, as well as an example of the type of activity that we put on. She also talks about activities that are planned for next year and their estimated costs, which could be helpful when the corporation is deciding what event to sponsor for our team.

**Tennesseetown Middle School Green Team Planning Dashboard**

Our president and vice-president, Sam and Ally, are in charge of the planning dashboard, which outlines our goals for this year and the next 2 years. Our overall goal is to reduce the waste footprint of Tennesseetown Middle School by 25% as the school transitions to recycling and compost from landfill use; however, we also have other goals related to operation of our team, sustainability events, and financial planning. All of our goals are summed up in the planning dashboard, which we will continue to update 4 times each year. If a box for a particular date and indicator is red, that means we have not met the target. If the box is yellow, we are close to meeting the target, and if the box is green, we have met or exceeded the target.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Tennesseetown Middle School Green Team Planning Dashboard** | | | | | | |
| **Tennesseetown Middle School Green Team** | | **2018 – 2019 School Year** | | | | |
| **Indicator** | **Target** | **YTD** | **Fall** | **Winter** | **Spring** | **Summer** |
| **Operations** | |  | | | | |
| Student Leaders | 4 | 3 |  |  |  |  |
| Faculty Sponsors | 2 | 1 |  |  |  |  |
| Administrative Sponsors | 1 | 1 |  |  |  |  |
| **School** | |  | | | | |
| Sustainability Mission | Yes | Yes |  |  |  |  |
| Waste Diversion (3 years) | 25% | 15% |  |  |  |  |
| **Events** | |  | | | | |
| Service | 2 | 1 |  |  |  |  |
| Outreach | 4 | 4 |  |  |  |  |
| **Finances** | |  | | | | |
| Grants | $500 | $400 |  |  |  |  |
| Donations | $250 | $300 |  |  |  |  |

**Links**

There are many websites, documents, activities, and other resources for green teams to use from all around the United States. Since they already exist, they can be used free of charge by teachers in Tennessee. Attached are helpful links, tips, contact information, and activities that can be done with the green team at your school.

GrowNYC

The first section of links leads to activities and programs outlined by Greenmarket, an organization that operates sustainable food stores in New York City. Their specific programs on environmental education, called GrowNYC, have wonderful activities for elementary and middle-school age students.

1. <https://www.grownyc.org/recyclingchampions> - The recycling champions program helps schools establish recycling programs that are effective, safe, and easy to use. Within this program, sections such as Recycling 101, Zero Waste, and RRR Education contain dozens of documents, posters, and presentations to help your students make a recycling program at their school a reality.
2. <https://www.grownyc.org/greenmarket/education/seedtoplate>; <https://www.grownyc.org/learn-it-grow-it-eat-it> - Both of these programs provide outreach to underprivileged youth by teaching them about sustainable agriculture, food, and food waste. Although they contain less documents and information than the Recycling Champions program links, both the Seed to Plate and Learn It Grow It Eat It programs could be valuable in establishing a base from which to launch your own sustainable gardening or food waste activity.

The Green Team – MassDEC

The next section of links leads to activities outlined by The Green Team, a program for students sponsored by the Massachusetts Department of Environmental Protection. It is an educational program that promotes sustainable activities, like waste reduction, reuse, recycling, composting, energy conservation and pollution prevention.

1. <https://thegreenteam.org/faqs/> - If you have overarching questions about The Green Team, they are answered here, or you can email [recycle@thegreenteam.org](mailto:recycle@thegreenteam.org).
2. <https://thegreenteam.org/wp-content/uploads/2015/08/Starting_a_School_Recycling_Program_(1).pdf> – The Green Team outlines a great way to begin recycling at your school if it does not already exist. If you need help, consult this resource.
3. <https://thegreenteam.org/wp-content/uploads/2017/11/Program-Guide_web.pdf> - The Green Team Program Guide is the table of contents for the entire program. It contains helpful tips for all kinds of activities, worksheets, posters, and links to helpful government websites and presentations.
4. <https://thegreenteam.org/library-curricula/links/> - The Green Team also provides a long list of links for their program. Although many of the departments in their link sheet are Massachusetts-specific, it’s a good site to use when looking for information about an environmental agency or event.

Government Agencies

This section of links leads to the websites of state and federal agencies which may be useful for your green team.

1. Federal Agencies
   1. [www.epa.gov](http://www.epa.gov) - The United States Environmental Protection Agency - Coordinates federal environmental protection and legislation, maintains field offices in 10 locations across the country.
   2. <https://www.epa.gov/aboutepa/about-epa-region-4-southeast> - The United States Environmental Protection Agency, Region 4 Field Office - directs EPA activities throughout the southeastern United States.
2. State Agencies
   1. <https://www.tn.gov/environment.html> - The Tennessee Department of Environment and Conservation – Regulates environmental policy for the state of Tennessee; maintains state parks and other conservation facilities.
   2. <https://www.tn.gov/agriculture.html> - The Tennessee Department of Agriculture – Regulates and subsidizes agricultural operations in the state of Tennessee.
   3. <https://www.tn.gov/education.html> - The Tennessee Department of Education – Regulates educational policy for the state of Tennessee.

**Activities**

In addition to the two activities described in the sample green team plan (Waste Diversion Competition and Consumption Measurements), other activities have been provided here to serve as an example of what a green team may engage in.

**Activity 1: Clothing Drive**

Hosting a clothing drive is a great way to get people to recycle their clothes, shoes, and other accessories that they may not have even known are recyclable. The EPA estimates that each year, people in the United States generate about 70 pounds of unwanted clothing. If even a fraction of that amount was recycled, it would be amazing for the environment, and products like bags, hats, and other clothing items could be created from the recycled fabric material.

**Before the event:**

* Find a local organization that will recycle clothing for you – many solid waste collection centers have bins for clothing or fabric
* Decide on an event time, location, and duration
* Contact the local papers with a press release to advertise your collection
* Put up promotional posters and flyers to advertise your collection
* Schedule volunteers to assist with sorting between clothing, toys, and shoes

**On the day of the event:**

* Put up signs and directions to show people where to drop off
* Make sure volunteers know how to assist people dropping off
* Put the clothing, toys, and shoes into separate trash bags

**After the event:**

* Take the clothing and shoes to the nearest solid waste collection center with a bin for clothing or shoe donations, or an alternate location you and an organization have decided on
* Take the toys to a location where they can be donated – many large donation centers will accept toys as part of a donation

**Activity 2: End of Year Collection**

At the end of the school year, students will be asked to remove everything from their desks, lockers, and other storage spaces within the school. Often, they do not want to keep their assignments or papers from the last year, and they get thrown away. Although recycling bins may exist within the school, they often are filled too quickly to keep up with the volume of paper that students want to dispose of. It’s simple and easy to promote recycling and reuse through a simple paper, plastic, and recyclables collection throughout the last week or two of school.

**What you need:**

* Student volunteers
* Recycling bins
* Trash bins
* Compost/organic waste bins, if available

**What to do:**

1. Set out waste stations for each grade or class – they should include one of each bin.
2. Station student volunteers with each waste station, 2 per station – one will help students put their waste in the right bin, and the other will move the bins to the dumpster when they get full.

**Activity 3: Carbon Footprint**

This activity focuses on students’ personal choices and their effects on the environment through carbon footprint calculations. Carbon footprints are calculated using statistics about waste, transportation, energy use, and water, as well as other things students do that emit greenhouse gases. Once students are more aware of the effects of their daily habits, they can begin to look at positive steps they can take to help reduce climate change.

First, go to a website like <https://calc.zerofootprint.net/> and have students calculate their carbon footprints – they can compare with the national average from any country, as well as the world male and female averages and the average from your school.

Next, have students compare their carbon footprints with each other – what makes one person’s higher than the other?

Finally, engage students in a conversation about actions and strategies to lower their carbon footprints.

**Activity 4: Climate Change Scorecard**

There are many things we can all do to help slow global climate change and keep our earth healthy. We help each time we make a choice that results in using less fossil fuels for energy, heating and transportation. Below is a list of ways we can reduce our energy use and help counteract pollution. Keep track of your actions for a week, and give yourself a point each time you take an action. See how many points you and your classmates can accumulate. The more points, the more you are doing to stop global warming!

|  |  |  |
| --- | --- | --- |
| **Climate Change Scorecard** | **Number of Times During the Week** | **Grand Total** |
| ***Fuel*** | | |
| Take the bus to school |  |  |
| Walk or bike to school |  |  |
| Carpool |  |  |
| Eat locally grown food |  |  |
| ***Energy*** | | |
| Turn out lights when leaving a room |  |  |
| Turn off appliances and power-strips when not in use |  |  |
| Use less hot water, for instance, by taking shorter showers |  |  |
| Recycle paper, cardboard, plastics, glass and metals |  |  |
| Recycle or reuse plastic shopping bags |  |  |
| Use refillable containers for lunch and snacks |  |  |
| Use a refillable bottle or thermos for water or other drinks |  |  |
| ***Atmosphere*** | | |
| Plant a tree |  |  |
| Plant a garden |  |  |
| ***Soil*** | | |
| Make a compost pile |  |  |
| Use leaves as mulch |  |  |
| Leave grass clippings on the lawn |  |  |
| **TOTAL** |  |  |

**Activity 5: Ocean Acidification**

This activity integrates climate change, ocean acidification, and pH in a hands-on demonstration to model acidification through the formation of carbonic acid.

In oceanic environments, saltwater allows fish to survive because it keeps the pH of the ocean steady at 8.2. In the past century, though, humans have been releasing more carbon dioxide, which combines with the water to form carbonic acid.

So just by breathing, you release carbon dioxide, which can lower the pH of the ocean. In fact, over the last 200 years, the pH of the ocean has changed from around 8.2 to 8.05, which is a 29% increase. By 2100, scientists predict that the acidity of the ocean will more than double (128.8% increase). The largest mass extinction event in world history, which occurred more than 250 million years ago, was actually caused by increases in acidity of the ocean, so much so that 96% of all organisms were killed. Increased ocean acidity may also cause changes in habitat quality and have effects on other ecological processes.

**What you need:**

* Red cabbage indicator
* Three beakers - one acidic solution, one basic solution, one neutral solution
* A flask or cup with a straw for each student or group

**What to do:**

1. Divide students into pairs or groups, if needed. Give each student a flask or cup of indicator solution and explain what it is. Give them a straw.
2. Demonstrate the effects of acid (vinegar) and base (baking soda) on the chosen indicator solution. The vinegar will make the solution a bright red, while the baking soda makes it a dark teal.
3. Explain to students that by blowing in their cups or flasks, they are generating carbon dioxide, which will produce carbonic acid. Ask them what color the solution should turn (With red cabbage, magenta-pink).
4. Distribute flasks of solution and straws to students and tell them to blow into the flasks for 10 seconds. Do they notice a color change? (They shouldn’t - teachers may use this as an opportunity to explain that ocean acidification is a process that has occurred over millennia and is only speeding up over the last 200 years)
5. Ask students to blow for longer - the color of their solutions should change noticeably around 1 minute and finalize around 90 seconds.

What does the color change show about humans’ effects on the oceans? What do you think that the acidification of the oceans will do to fish or other marine organisms?

1. NEPA available at: <https://ceq.doe.gov/laws-regulations/laws.html> [↑](#footnote-ref-1)
2. Other state agencies, such as the Tennessee Department of Health and the Tennessee Department of Agriculture, also contribute to protection of human health and the environment. [↑](#footnote-ref-2)
3. United Nations General Assembly Resolution A/60/1, 2005 World Summit Outcome. Adopted 24 Oct 2005. [↑](#footnote-ref-3)
4. Report of the World Commission on Environment and Development: Our Common Future. Transmitted to the General Assembly as an Annex to document A/42/427, 20 March 1987. [↑](#footnote-ref-4)
5. TN State Standards available at: <https://www.tn.gov/education/instruction/academic-standards.html> [↑](#footnote-ref-5)
6. Please see activities like “Reduce, Reuse, Recycle”, “Energy Sleuths”, and “We All Need Trees” in Project Learning Tree’s ***Environmental Education Activity Guide***. [↑](#footnote-ref-6)
7. <http://www.eco-usa.net/orgs/tn.shtml> - contains a list of some known non-profits in Tennessee [↑](#footnote-ref-7)