Maplebrook School
Sustainability Handbook

A Guide to a Greener School
This handbook was created with the vision of helping to create a school where our operations are as sustainable as our education. The goal is to take the next step forward and this guide offers real, tangible ways to move forward.

Within, you will find tips for administrators, parents, students, and maintenance staff. Each tip is not marked as one key to sustainability; success is working together. All of the parts must be in sync with each other, sharing the underlying values of environmental and economic sustainability.

We hope that this handbook inspires everyone at Maplebrook to take the next step along the journey, instilling environmental manners into our everyday practices. Together sustainable decisions lead to long term success and amazing educational opportunities.

The beauty of sustainability is in realizing the essence of education; knowing that together we are transcending ourselves, making a long-term difference in the lives of our students and the planet.

This handbook was created out of a commitment to creating an environmentally and economically sustainable system.

*We do not inherit the earth from our ancestors; we borrow it from our children.*

~~Native American Proverb~~
OUR VISION

Maplebrook School will build our sustainable global future and foster a green culture by successfully engaging in best practices around environmental stewardship and teaching and learning schoolwide.

OUR MISSION

Our mission is to promote student learning and action using the environment as a foundation. We will be model environmental stewards by investing in green infrastructure and resources, utilizing interdisciplinary environmental curriculum, and fostering community partnerships.

MAPLEBROOK STRATEGIC PLAN GOALS:

1. Transform Maplebrook into a 21st C. school by developing programs that emphasize sustainability, global collaboration and service learning.

2. Develop a school-wide sustainability plan that will be a blueprint for faculty/staff, students and parents.

3. Ensure Maplebrook’s commitment to be a “green” environment. Incorporate environmental sustainability school-wide so as to emphasize to the whole school community the importance of environmental change and to be environmental stewards.

4. Ensure that all new construction/improvements meet the standards of sustainability as projects are planned and completed.

5. Continually expand the Etkin Environmental Center to honor the natural environment and offer programming to allow the community to experience all the EEC has to offer.

6. Recommend, on an annual basis, school-wide aesthetic improvements and revitalization of physical plant, such as installing solar panels to support sustainability.
The Key to Greening Our School
# Table of Contents

Environment & Energy Solutions Matrix

**Energy**

Transportation and Air

Conservation

Green Cleaning

Land

Gardening

Water

Reducing Consumption

Waste

Waste Reduction

Recycling

Composting

**Engagement**

Green School Teams

Community Relations
Environment & Energy Solutions Matrix

INSTRUCTIONAL SERVICES
- Sustainable Food
- Recycling Program
- Energy Conservation
- Green Ambassadors

FACILITIES MANAGEMENT
- Energy Management
- Preventative Maintenance
- Landscaping
- Recycling

FOOD AND NUTRITION SERVICES
- Sustainable Foods Program
- Recycling Program
- Energy Conservation
- Wellness

ADMINISTRATIVE SERVICES
- Facility Audits
- Community Use
- Performance Measures
- Budget

DESIGN & CONSTRUCTION
- Capital Projects
- Planning
- Renovation
- Environmental Stewardship

SAFETY AND SECURITY
- System Training
- ENERGY STAR
- Hazardous Waste Disposal
- Safety Training
Background & Benefits

Energy consumption is one of the greatest contributors to global warming, as well as one of a school’s biggest expenses. Reduction in the use of energy and finding renewable methods of generating energy represent a win-win for the environment and your bottom line. Although it may seem overwhelming, you can start with small steps by implementing replacement policies for appliances and light bulbs and working towards on-site renewable energy generation.

Implementation Steps

1. Place “TURN OFF THE LIGHTS” signs at every light switch- especially the classrooms. You can hold a student design contest for the sign and print the winning design for each room.

2. Assign a certain wing for after-school activities and shut down the lights in the hallways and rooms in the other wings. If your HVAC is zoned, you can shut it down for the unused wing(s) after school hours.

3. As your bulbs burn out, replace incandescent bulbs with CFLs (Compact Florescent Lights). An ENERGY STAR qualified compact fluorescent light bulb (CFL) will save about $30 over its lifetime and pay for itself in about 6 months. It uses 75 percent less energy and lasts about 10 times longer than an incandescent bulb.

4. Replace T-12 Florescent Tubes with T-8 Florescent Tubes. Replacement of the lighting ballasts is necessary- contact your energy company for available funds to replace ballasts.

5. Perform regular maintenance on boilers and HVAC systems–this is one of the most important steps to energy efficient cooling and heating.

6. Install motion sensors on lighting fixtures, so that they turn off automatically when not in use.
7. Turn off all computers at the end of the school day.

8. Set copy machine to turn off when done with copies.


10. At time of replacement, buy appliances with Energy Star label.

11. Turn the heat down 2 degrees and the A/C up 2 degrees- it will hardly be noticed, but you will save on your bills!

12. Look for grant opportunities for Solar and Wind energy generation (see resource section).

**Growing Involvement and Excitement**

• Track your energy efficiency progress on

• Create competitions for “lights out” signs and to see who can have the least number of minutes with their lights on.

[https://www.energystar.gov/](https://www.energystar.gov/)
Transportation and Air

Background & Benefits

Walking and biking around school grounds have far reaching benefits for the school. Walking and biking around and between campuses encourages a healthy lifestyle, allows us to be good examples for the students and provides environmentally responsible options. We can reduce vehicle emissions associated with increased vehicle use and idling and it will save you in money you put into your fuel tank.

For air, we refer to green cleaning. The supplies and methods of cleaning a school can significantly impact the health and performance of students, administrators and cleaning staff. Traditional cleaning products often contain chemicals that can be damaging. These cleaning chemicals are also routinely washed down the drain where they make their way into lakes and streams, adversely affecting plant and animal life, threatening public health and adding to pollution. Concentrated environmentally-preferable cleaning products require less storage space, packaging and energy consumption while achieving the same, if not better cleaning results.

Implementation Steps

1. Chart miles walked and biked with the students so everyone can keep track and see their progress as individuals and a school.

2. Set goals for the school to encourage participation. Post fitness tracker results for the week as positive reinforcement.

3. Switch to green cleaning products. Look for products marked “Green Seal Certified” or “Eco-Logo Certified”. Use micro-fiber cloths and mop heads in place of traditional ones. When we need to replace vacuums, purchase ones with high-efficiency filters.
4. Train the staff! Work with cleaning staff and those teaching the students how to properly use, handle and store these products. Inform administrative and teaching staff of the changes. Where appropriate, give them access to the new cleaning supplies as well (such as in science lab or dorms).

https://newsinhealth.nih.gov/2016/03/benefits-walking

https://www.greenworkscleaners.com/


get walking!
Land ~ Gardening

Background and Benefits

The school's garden and activity in Northern Harvest @ the Etkin Environmental Center are powerful tools for teaching our students about the connection between their everyday food choices and their health, the environment, and helping the community. Through hands-on experiences, students grow an awareness of the physical environment and develop a sense of connectedness with their land, and all that grows on it. The gardens and growing in the greenhouse creates opportunities for our students to discover fresh organic food, learn about a variety of flowers, become better stewards of the earth, and develop self-confidence, discipline, and skills in collaborating with others.

Implementation Steps

1. Create a garden committee of faculty, staff and students guided by Mr. Amarillas. The committee should begin to link garden experiences with students' lessons for truly integrated experiential learning. 
   Examples: Measure and chart the height of tomato plants and their yield each week. Older students can plant the same seeds in different soil conditions, facing different directions etc. To learn design, students can draw a schematic of the garden area, charting the sun and water gathering locations and plan the layout of the garden.

2. The garden should be planned to grow a wide variety of seasonal produce and flowers that favors the local climate; changing from season to season, as you seed, grow, harvest, and rotate crops with new groups of students each year.

3. Students harvest and prepare produce and plant flowers around both campuses as part of their garden in cooking groups, community service activities and in Monday afternoon clubs.
Water

Background and Benefits

Schools use a tremendous amount of water everyday, and require water for their heating and cooling systems, restrooms, the dining hall, locker rooms, dormitories, and outdoor playing fields and lawns. Conserving water at our school will save money and help the planet. There are a few things we can do to conserve water and be better environmental stewards.

Implementation

1. Develop a water management plan - Outline a plan for all of us to use at the school to improve water efficiency.

2. Know your water and water related costs. Assign staff and students to monitor water use and waste.

3. Set goals, chart progress and post results. Read water meter weekly to monitor success of water conservation efforts.

Other methods of water conservation:

- Incorporate zero-scaping into parts of the landscape design. Zero-scaping utilizes wildflowers and other no-maintenance plants to create an area that does not need watering or mowing.

- Use water-saving shower heads in dorms & locker rooms. Be conscious to turn water off when brushing teeth, washing dishes, etc. Only run dishwashers and washing machines when full.

- Reward the dorms who have used the least amount of water in a utility period.
Waste

Background and Benefits

Reducing our school’s waste stream can lead directly to saving money. Significant waste reduction measures can mean less to haul away, and with our composting efforts, organic waste transferred from the trash bins are used for oil and nourishing the soil, lowering our landscaping costs. In addition to costs savings, waste reduction is an essential element to creating a healthier planet. As waste accumulates in landfills, harmful and toxic greenhouses gases such as methane are released into the air.

Implementation

1. Create a Waste Reduction Plan and Policy that looks at how to waste less. Some ideas include:
   * **Reuse scrap paper for phone messages or notes.** Keep a box in each room for scrap paper. Use paper scraps for art projects.
   * **Set printer to double-sided.** Do not print emails. Send internal memos via emails or post them on boards.
   * **Encourage reusable mugs/cups in all areas of the school.**
   * **Create and encourage recycling. Purchase recyclable materials.**

2. Reuse landscape trimmings and pruning for science projects, art projects or composting.

3. Use reusable mops, dust mops and rags. Use refillable pump spray bottles. Use reusable vacuum cleaner bags.

4. Employ reusable filters in the heating, ventilation, and air conditioning (HVAC) system.
5. Place smaller trash cans in the classrooms and dorms (over time the expectation of how much trash can be produced will change).

6. Send old equipment (e.g., air conditioner cooling compressors) back to the vendor to be refurbished and resold or to a recycler.

7. Use rechargeable batteries. Recycle spent batteries and fluorescent lamps.

8. Use reusable plates and utensils rather than disposables.

9. Encourage kids to take a small amount of food and encourage portion control both in dorms and dining hall.

10. Use erasable lap boards, plastic covers over worksheets and use erasable pen, markers.

11. Hold a “no waste” day. This could correspond with Earth Day/Week. Have a waste prevention poster contest - then use posters to designate areas such as recycling areas, reusable areas, etc.

12. Organize a “recycling team” that rotates responsibilities/tasks in all dorms and throughout the campus. Track the amount of waste the school creates by running a waste audit. Brainstorm ways to reduce, monitor progress and provide incentives and recognition for most-reduced by classroom or dorm.
Recycling

Background and Benefits

In-school recycling provides many benefits to the school and the community. From reducing waste in the environment to reducing a school’s costs by reusing materials, recycling enables the students and teachers to engage in a hands-on learning experience while helping to keep our environment healthy.

Implementation

1. Do a recycling bin audit and contact the local waste/recycling hauler to inquire if they are able to provide free recycling bins. Ensure there is a recycling bin near each waste basket.

2. Send a memo/email to teachers and administrators asking them to make sure students are throwing their paper products in the recycling.

3. Teachers can create educational opportunities measuring the amount of recycled material each day/week, either by weight, amount or proportion-depending on the class or dorm.

4. Create incentives for teachers, administrators, students and janitorial staff to correctly recycle more throughout the year.

5. Use the Dutchess County Government website as a resource: https://www.dutchessny.gov/CountyGov/Departments/SolidWasteMgmt/SWindex.htm
Composting

Background and Benefits

Composting presents many opportunities for our school community from waste reduction, to costs savings, to excellent educational opportunities. Composting provides connections, interdisciplinary learning, financial opportunities and it helps to instill an environmental ethic, conserve natural resources and build school community. It also provides an opportunity to teach social responsibility and to give the students a hands-on opportunity to see how science and nature operate.

Implementation

1. Create a composting plan at the direction of Mr. Amarillas. Discuss collection system design from dormitories and the dining hall. Determine student and staff responsibilities in dorms and dining hall.

2. Set up a station in the cafeteria near the trash with an additional can for compostable material. Use a sign or a dry-erase board on the wall lists the items that are acceptable for composting that day. Meat, dairy products, grease, and oil are never acceptable items for composting.

3. During dorm clean up, students should take the smaller compost bin to the larger outdoor compost bins.

Outside Compost Bin

1. Choose a location for your compost bin. The location should be on a level, well-drained surface of pavement or bare earth.

2. Use a large bin or build a bin for your compost pile be sure to abide by county, city, and state ordinances.
3. After your bin has been constructed, wet the ground under the bin. Add two inches of wet dirt to the bottom of your bin if it is located on pavement or has a sealed base. Proper moisture is essential to a good compost pile.

4. Lay a four to six inch layer of twigs and branches at the bottom of your bin. This will allow for air circulation. Now add thin layers of biodegradable materials like fresh grass clippings, leaves, twigs, potato peelings, etc.

5. Continue adding biodegradable items over the next few weeks. Examples include: fruit and vegetable peelings, coffee grounds, stale bread, and yard waste.

6. Stir your pile with a shovel or pitchfork once a week to keep things mixed and ensure that everything remains moist. Add water when necessary.

7. When individual materials can no longer be identified and the pile resembles dark, rich soil, the compost is completed (this may take six-twelve weeks).

8. Use this composted material in your garden as a fertilizer or pile it around the base of trees to help retain moisture in the soil.

9. Start a Waste Reduction Week at our school or other activity/event to gather excitement and show your commitment to composting.
Engagement

Establishing Green Teams

A Green Team is the core of the school's sustainability process, both organizing and directing activities at the school. Consisting of the stakeholders of the school environment – students, teachers, maintenance, parents and school administrators. School-wide involvement is essential. Green Teams can be charged with coordinating many of the greening activities; making recommendations to relevant school decision-makers, and facilitating communication among and actions by the whole school community.

Implementation

1. Select Members of the Green Teams - they will be more successful if we include more participants from different parts of your school community.

2. Create Roles and Responsibilities

a. Faculty/Staff: Sets up meetings, creates the agendas, facilitates meetings and keeps them on track, encourages participation by all team members, and stays informed about new resources available.

b. Secretary: Takes minutes at the meetings, records decisions made and includes the name of the person responsible for carrying out each action as well as an estimated timeline. Provides minutes to the rest of the Team (preferably electronically or by posting one copy for others to read).

c. Communications/Publicity: Ensures that results of assessments, actions, and events are communicated to the school community (e.g., submitting a monthly report/update for the school newsletter, making posters, signage, and promoting special events). This important role probably requires more than one person.
d. Student Representatives: Offer suggestions from a student perspective, communicate information to and from the student body. Students also work on actions from the action lists, take leadership for classroom and dorm initiatives (e.g. train other students in waste reduction and energy conservation practices).

3. Adopt a Vision Statement that includes the goals and initial steps.

4. Create a plan that may include:

a. Environmental Audit: which can be done internally by students, teachers and maintenance staff, possibly as part of an educational project.

b. Action Plan: identifying priorities and responsibilities. It should include both short term and long term goals taken on by students, teachers and administrators.

c. Recycling Project that sets measurable goals.

d. Energy Conservation: Conduct our own audit to how we may conserve energy in the classrooms and dorms.

e. Reduce consumptions and avoid waste and participate in something fun! Plan an event in your school for America Recycles Day in November or Earth Day in April.

5. Monitor and celebrate success while constantly evaluating and refining our plan!
Community Relations

Background and Benefits

At Maplebrook, we are committed to educating the next generation of environmental leaders that will foster meaningful change in their communities and the broader world. We demonstrate our commitment to this mission by providing students with hands-on experiences that immerse them in their immediate communities through volunteering and service learning. Service learning is a teaching method that links course objectives with meaningful community service experiences. Students gain a greater understanding of practical real-world problems and how to create solutions utilizing the knowledge and skills acquired in the classroom.

Implementation

1. Outdoor classroom activities invite schools in the local community to use the Etkin Environmental Center's facilities to learn about sustainability and environmental awareness. This affords leadership opportunities for our students and helps with retention of what they have learned.

2. Developing a robust community service program. This cultivates in students a sense of responsibility for the welfare of others, promotes partnerships between the school and local community, and enhances a fuller understanding of social, economic and environmental sustainability.

3. Create a quarterly newsletter to communicate sustainability events and initiatives happening on campus or in the community.

4. Create an annual Earth Fair held to correspond with Earth Day. Planned in partnership between the school and the local community, themes would focus on promoting sustainability. Examples include: “A Balanced Life, A Balanced Earth,” “Powering into the Future,” “Affordable Green,” and “Growing Green Together”.
