BEST management PRACTICES

About This Document

This Best Management Practices (BMP) guide is produced by the School Energy and Recycling Team (SERT) program of Montgomery County Public Schools (MCPS) as a resource for all occupants and users of MCPS facilities. Its purpose is to help our students, staff, parents and community members maintain a clean, safe, and healthy learning environment by reducing energy and water consumption while increasing recycling rates within our facilities. When you see this  image on our website, it means that you'll find additional information about the topic in this document.

Because this guide is a "living" document that is consistently edited and updated to reflect current trends and relative situations, it is only published electronically. Thank you for helping us conserve resources by bookmarking this link for viewing the SERT BMP online instead of printing it out.

For more information about the practices in this guide, contact SERT.

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Table of Contents

About Montgomery County Public Schools

Montgomery County Public Schools (MCPS) is committed to responsible environmental stewardship. Our students and staff take pride in our conservation efforts to ensure that the earth's natural resources are preserved for present and future generations. MCPS is recognized as a national leader in sustainability and environmental stewardship.

Since 2012, eleven MCPS schools have been recognized with the National Green Ribbon Award by the U.S. Department of Education. In 2013, MCPS was among the first 15 school districts in the nation to receive the District Sustainability Award from the U.S. Department of Education. These recognitions are a testament of our dedication to environmental sustainability.

Through the years, MCPS has made tremendous strides in reducing greenhouse gas emissions by making environmentally friendly decisions in the areas of building construction and maintenance, resource conservation, transportation, materials and waste cycles, and information technology. MCPS continues to be a leader in green and healthy-schools initiatives and integrates environmental literacy into the curriculum and instructional programs at all grade levels. These actions not only help us to make our earth a better place to live, but more importantly, help to mold our students to be responsible environmental stewards and future leaders.

Conservation and Recycling Within MCPS

Fiscal responsibility and resource stewardship go hand-in-hand in ensuring that the MCPS operating budget stretches to cover all essential educational needs. We can collectively reduce energy waste and preserve essential educational priorities.

Montgomery County Public Schools are challenged to actively engage and participate in the SERT program to conserve energy consumption and increase their recycling participation by growing awareness and modify behavior as future leaders and role models of conservancy.

Our Impact on Climate Change

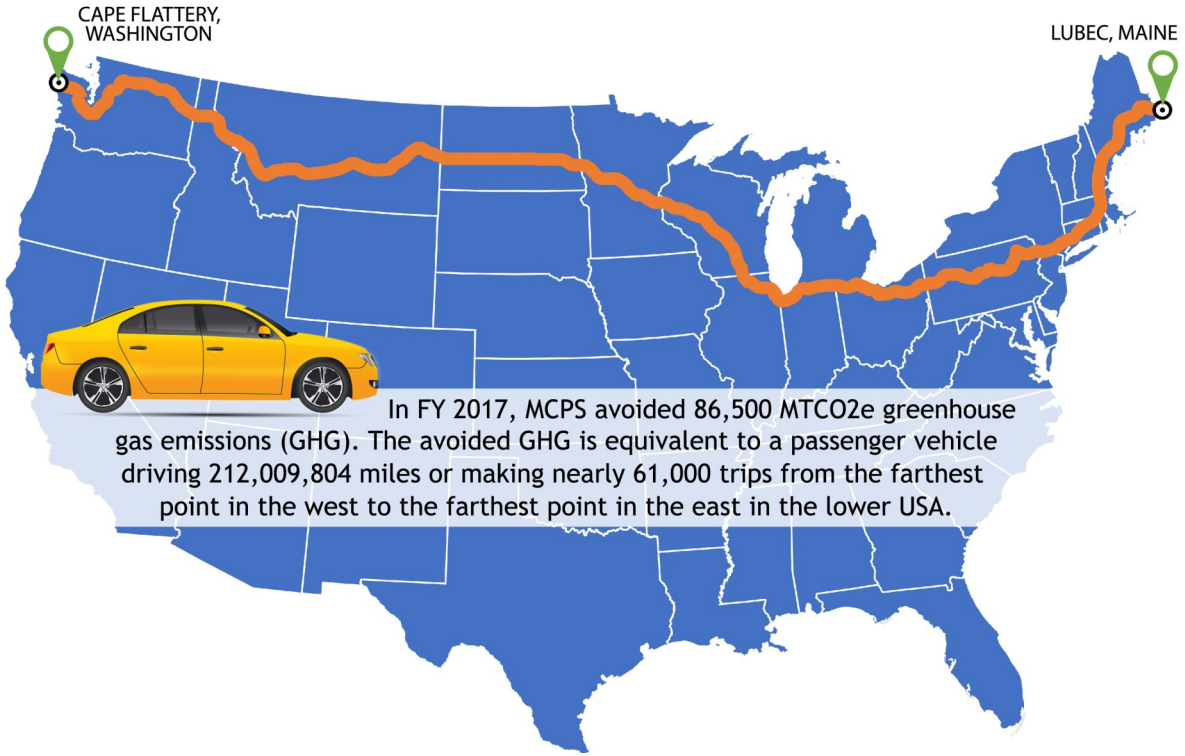
In the United States, greenhouse gas emissions (GHG) caused by human activities increased by seven percent from 1990 to 2014. Since 2005, however, total U.S. greenhouse gas emissions have decreased by seven percent. Carbon dioxide accounts for most of the nation's emissions and most of the increase since 1990. Electricity generation is the largest source of greenhouse gas emissions in the United States, followed by transportation. [United States Environmental Protection Agency]

Within MCPS, the largest contributor to GHG emissions is associated with the heating, cooling, and lighting of our schools and facilities. In FY 2017, electricity used in our portfolio of buildings resulted in 64 percent of the total GHG emissions, then by fleet fuel used by buses that transport our 101,949 students daily to and from school and activities and the service vehicles driven by our support staff resulted in 19 percent of the GHG, followed by natural gas that resulted in 14 percent of the GHG emitted. The use of electricity to power and maintain comfort in our 205 schools and supporting facilities and the use of fleet fuel continues to be the priorities to reduce GHG emissions at MCPS. Building energy efficiency and fleet vehicle efficiency are two targeted areas that provide the greatest opportunities to make an impact to reduce the amount of GHG generated.

In FY 2017, MCPS avoided greenhouse gas emissions by nearly 86,500 MTCO2e, through a variety of environmental conservation programs and initiatives. These activities resulted in a carbon footprint avoidance of 31 percent of the total GHG generated in FY 2017. MCPS has been making incremental gains in GHG avoidance over the past several years by focusing on areas that provide the best opportunities to reduce our emissions. In FY 2007, MCPS avoided nearly 31,000 MTCO2e in GHG compared to nearly 86,500 MTCO2e in FY 2017. The GHG avoidance in FY 2017 has more than doubled compared to the amount of GHG reduced in FY 2007. Since FY 2003, MCPS' environmental sustainability efforts have resulted in a cumulative GHG reduction of nearly 725,000 MTCO2e.

The greatest areas of reduction was through the purchase of renewable energy certificates (RECs) for wind energy that accounted for 50 percent of the avoidance, followed by energy retrofit projects that resulted in 28 percent of the avoidance, and green features in new school construction that resulted in 16 percent of the total GHG avoidance. All other areas of reduction including hosting of solar PV, recycling efforts, solid waste reduction, and energy use reductions in schools accounted for the remainder of the total GHG avoidance in FY 2017.

MCPS continues its comprehensive district wide programs to incrementally reduce the impact of our environmental footprint through various effort including recycling initiatives, energy conservation efforts, and a commitment to green construction practices in all building projects. We teach our students the value of protecting our natural resources and being good stewards of the environment.



About the School Energy and Recycling Team

The School Energy and Recycling Team (SERT) program is part of the Department of Facilities Management (DFM) in the Montgomery County Public Schools (MCPS) system. The program was initiated in 1993 to support school-based building occupants to conservation energy. In 2004, the SERT program was reinvented to include field facilitators to conduct regularly scheduled school visits to further expand energy conservation efforts, and to promote recycling participation and solid waste reduction. Today, SERT program staff visit all schools each quarter to recognize them for exemplary behavior and to identify opportunities to conserve energy and increase recycling. In addition to daytime visits, the SERT program staff routinely conduct random evening school visits to identify additional energy reducing opportunities after normal school operating hours.

The SERT program provides necessary resources to staff and students at all MCPS schools to help foster a culture of conservation, with a special focus on energy efficiency and recycling. Classroom activities, tool kits, videos, and various contests provide our students with rich and rewarding experiences in environmental stewardship. Each year more than 800 regular school visits are conducted, in addition to providing program outreach and support to school-based SERT teams. Outreach events, such as energy and recycling awareness assemblies for Grades K-5, *Lunch and Learn* recycling education events, and *Read Aloud* book-reading activities, are designed to teach our students the importance of environmental conservation.

Largely as a result of these efforts and other energy-efficient improvements to schools buildings, in FY 2017, MCPS achieved nearly $600,000 in energy use cost avoidance and approximately $700,000 in Peak Load Management (PLM) avoidance—a dedicated summertime peak hours energy avoidance program.

SERT's customer base includes:

- Students
- Principals and school staff
- School system executive staff
- Non-school-based MCPS employees
- Community user groups and tenants of MCPS facilities
- Parents/guardians and community leaders
- Board of Education and County Council members, and other county executives

The SERT program collaborates with:

- Other MCPS departments, divisions, and units
- Department of Energy (DOE), US Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and other Federal government agencies
- Maryland Department of the Environment (MDE), Maryland Energy Administration (MEA), and other state agencies
- Montgomery County's Department of Environmental Protection (MCDEP), Community Use of Public Facilities (CUPF), and other local government agencies
- Baltimore Gas and Electric, Pepco, Potomac Edison, Washington Gas, WSSC, and Potomac Disposal
- Maryland Association for Environmental and Outdoor Education (MAEOE) and the Audubon Naturalist Society (ANS)

SERT's Mission Statement

SERT provides support to significantly reduce energy and natural resource consumption and increase recycling participating systemwide through:

- Sustainability training and education
- Incentives, recognition, and awards
- Accessible energy and recycling data
- Customized energy and environmental conservation programs and learning opportunities
- Conservation operations and procedures

Our Vision Statement

To be a global model of sustainability by actively engaging in innovative energy and environmental programs.

SERT's Motto

"It's your world. Choose to conserve!"

SERT's Core Values

Respect

WE BELIEVE that respect for all opinions and individuals is the foundation to building strong relationships and adds value to the success of the SERT program. **THEREFORE**, we will respect all contributions, provide good will, act professionally, listen actively, and welcome open communication with our customers, partners and stakeholders realizing that collectively we can achieve more.

Relationships

WE BELIEVE that collaboration by building relationships and partnerships is vital and the key to achieving a successful systemwide conservation program. **THEREFORE**, we will seek to understand and commit to building professional relationships with our customers, partners and stakeholders to provide the necessary resources to achieve program objectives.

Equity

WE BELIEVE that conservation and environmental sustainability is equally important to all regardless of racial, cultural and ethnic diversity that is represented in MCPS. **THEREFORE**, we will embrace the diversity of the SERT program staff, MCPS staff, students, partners and stakeholders and leverage upon the wealth of experiences to effectively implement the conservation initiatives and celebrate that diversity through our posters, presentations and activities.

Excellence

WE BELIEVE that setting and maintaining high standards and exceptional customer service is essential to our success. **THEREFORE**, we will actively model exemplary behavior, embrace new ideas and perspectives, adhere to the highest ethical standards and provide exceptional customer service.

Learning

WE BELIEVE that our program is focused on engaging students, staff and the community to foster a lifelong commitment to environmental sustainability and conserving natural resources. **THEREFORE**, we are committed to promoting, raising awareness, sharing resources and providing learning opportunities towards achieving a balanced environmentally sustainable future.

Frequently Asked Questions About the SERT Program

How do I contact my school's SERT facilitator?

Click here to see which SERT facilitator is responsible for your school. Feel free to contact your facilitator via telephone or email.

What other assistance is available to help my school implement additional ideas and efforts?

SERT program staff is available throughout the year to provide training to schools and to support school-based SERT teams. Throughout the school year, the SERT facilitators will visit your school to provide advice and hands-on assistance with energy conservation and recycling strategies.

The SERT program tracks the energy consumption of each school and shares that information periodically with principals, SERT leaders, and community superintendents. Additionally, the MCPS Energy Management Unit and the Division of Maintenance will address temperature issues related to a building's heating and cooling, both during and after school hours.

My school is doing a great job and I want to share our strategies. How do I let others know about what we are doing?

Email SERT@mcpsmd.org to let us know about the wonderful activities taking place at your school to help conserve energy and water, and/or to promote recycling participation. SERT celebrates success stories in our monthly newsletter, *SERT Spotlight*, by highlighting the efforts of individual schools who are making great strides in their conservation efforts and encourage other schools to consider similar strategies.

How are SERT awards determined?

SERT awards are based on one of the following two performance criteria: (1) verifiable energy savings and (2) observed energy efficient behaviors. The energy savings are verified through energy bill analysis. Great Energy Management (GEM) awards are nominated and verified by your school's assigned SERT facilitator or other SERT program staff as part of site visits. These visits may take place during school hours, after school, or in the evening. The school-based SERT teams are encouraged to keep meeting notes or minutes and email, fax, or pony to the SERT program office for inclusion in your active school file.

Quarterly recycling awards are based on your school's average pounds per person (PPP) rate for the quarter compared to the baseline PPP by level. Awards will be given to the 25 schools (15 elementary, 5 middle, and 5 high) with the highest pounds per person (PPP) recycling rates for the first three quarters of the school year. The funds for these awards will be deposited into the IAF accounts of the winning schools. Please contact the SERT recycling manager if you need assistance with your recycling efforts.

What can schools do with the SERT awards?

Due to the many financial needs of schools, the principals have the latitude to spend these award funds for legitimate school, student, and improvement efforts. We trust that these funds will be used wisely, and encourage schools to use some of these funds to conserve energy, reduce waste, and increase recycling. For further ideas on suggested spending, see this flyer.

SERT in Your School

All MCPS schools are required to participate in the SERT program and to submit a complete, executed, SERT Action Plan (SAP) Form 201-10 by September 30 of each school year. The purpose of the SAP is to identify the school-based energy conservation and recycling leader(s) as designated by the principal, and the school's SERT team members. Principals are urged to support their school's SERT team, helping them establish and promote awareness and participation within their school.

The level of student and staff participation has a direct impact on the amount of energy savings achieved and the percentage of recyclables captured. Active collaboration between the students and staff in the SERT program is vital to successfully achieving our goals.

Successful schools utilize what we call the SERT Strategic Triangle, a partnership between the school administration; building service team; and the staff, students and community. Open communication, collaboration, and support from each side of the triangle creates the path to victory.

SERT staff is available to assist all schools with their individual SERT programs and to provide hands-on assistance with in-school initiatives. It is our sincere hope that your school's engagement with SERT will result in a positive and rewarding learning experience for all involved.

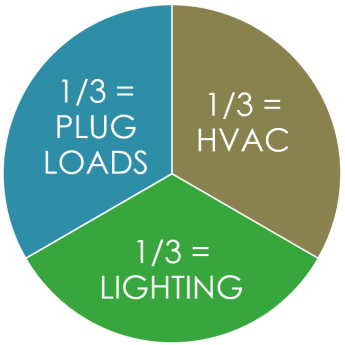
SERT'S STRATEGIC TRIANGLE

Best Practices for Conserving Energy

"Energy may be the most important environmental issue of our time. If you think about nearly any other environmental issue-air or water quality, land use, transportation, global climate changes, or solid waste management, to name some examples-you will find that it is related to the issue of energy. Energy affects our lives every day. It keeps us warm in the winter and cool in the summer, affords us the freedom to travel to faraway places, and keeps our food fresh and safe to eat. Energy is not just an environmental issue; it is a quality of life issue, too."

Lighting in General

Approximately one-third of the electricity used in your school comes from lighting. Electricity consumed by lighting is an area that provides the best opportunity to save on energy consumption without incurring any major expense. First, we have direct control at the switch. We can use the switches to control banks of lights in classrooms, halls, etc. Second, we can control how long the lights will operate. Third, we can simply remove selected lights from the fixtures to control the amount of light in an area. How far you decide to modify your lighting system depends on your school's particular lighting system and conditions. The SERT program staff is available to take light level readings and recommend areas where lighting can be reduced.



Turn off the lights, turn on the savings

Turning off the switch is the easiest saver. The potential savings from turning off the lights is very high, while the inconvenience is minimal. The entire school can proactively model this conservation action. Take advantage of the natural daylight and consider turning off lights in hallways that have large window areas. Also, check the bank of lights in classrooms along the windows and the school entry areas where there is usually an abundance of natural light where the use of overhead lights may not be necessary.

Floor Lighting in Computer Labs

The SERT Patrol students at Belmont Elementary School have transformed their computer lab into an energy-efficient model classroom. They agreed to turn off the overhead lights and turn on ten floor lamps provided by SERT program. Contact SERT to have program staff analyze your school's computer labs to determine of the use of floor lamps is suitable. These lights provide ambient light that eliminates computer screen glare and reduces the overall light level to a computer room standard. The critical component in this energy-saving equation is your commitment to turning off the overhead lighting when using the lab.

Switch to habits that save

Wherever possible, use the correct area's light switches to control the banks of lights that are needed. Experiment with the switches to see how they control the lights. Select the area that is being used and turn on the lights only for that specific area whenever possible. Why light up the back wall when everyone is facing forward? You can use this simple but effective technique if there is adequate natural light for the intended use of the area.

Reduce costs by keeping lights turned off until they're needed

Avoid turning on all the lights when the first person walks into the building. An efficient habit is to delay turning on the lights in vacant parts of the building until people arrive. You may be able to save an hour or two of lighting use every day, without inconveniencing anyone. Turn lights on when you need them and turn them off when you don't!

Delamping

In most of our classroom light fixtures, there are one to four individual fluorescent lamps. Depending on the types of fixtures, you can remove one of the lamps while keeping the others in. Which one to take out simply depends on which appears best to you. On the newer, skinnier (T-8) lamps, the manufacturer recommends that no more than one lamp be removed from the fixture. Delamping is a simple way to reduce foot-candles of light intensity in an area. In the lighting industry, foot-candles are a common unit of measurement used to calculate adequate lighting levels of workspaces in buildings or outdoor spaces.

Of course, you can also remove all the lamps in a fixture if the light is not needed at all. Some overhead light fixtures are also emergency lights that will stay on when the building loses power. The emergency light fixtures should not be deplamped. Delamping should done by qualified staff only. Keep in mind these rules for delamping:

- Do not compromise health, safety, or security.
- Do not take lamps out of new fixtures that are still covered under warranty.
- Do consider the needs of the building occupants.
- With T-8 systems, do not remove more than one lamp per fixture.
- Maintain recommended minimum light levels. Refer to the chart on the next page.
- Contact the Division of Sustainability and Compliance via email at sustainability@mcpsmd.org or call 240-314-1090 if you have any questions or need assistance.

Where would you delamp a light fixture?

Delamping is possible anywhere there is a fluorescent light fixture above an area that is not being used for active reading and writing or in areas where there is more light than needed. This could include the following areas:

- Classrooms
- Along windows
- Around doors, corners, and coatrooms
- Over computers, televisions, and equipment
- Over play areas
- On desk surfaces for reading (30 to 50 foot-candles required)
- Hallways and stairwells
- Around windows, skylights, and corridors off the main hall, hallways should have 10-20 foot-candles.
- Light meters are available for loan to school-based Sustainability teams from the Division of Sustainability and Compliance, SERT program.

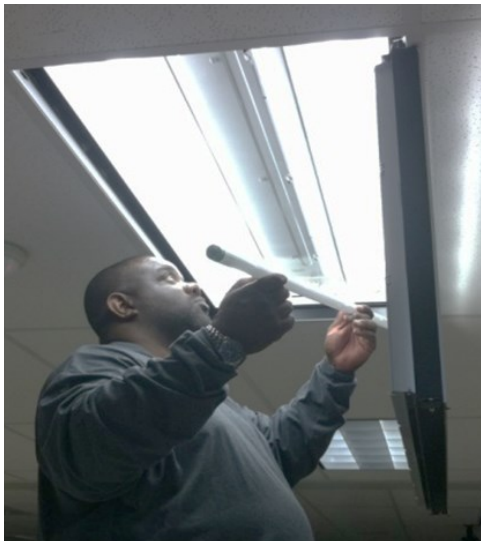
RECOMMENDED LIGHT LEVELS		
AREA	LEVEL	NOTES
Corridors and stairways	10-20 FC	As low as 10 FC for high-reflectivity flooring and walls (white or pastel) and up to 20 FC for dark-colored flooring.
Conference rooms	40 FC	At table height
Reception – seating area	30 FC	For average ambient lighting
Reception – desk	50 FC	For task surface/desk
Standard classrooms	40 FC	For reading and writing
Art classrooms	50 FC	Natural lighting is preferable
Computer labs	30 FC	
Restrooms	10 FC	
Gymnasiums	50-75FC	(ES & MS = 50, HS = 50-75)
Cafeteria – seating area	40 FC	
Cafeteria – food prep area	50 FC	

Customized Classroom Lighting

When a lighting system is designed, the entire floor area is usually covered end-to-end with an equal amount of light. When we customize the lighting, the idea is to put light where it is needed, and delamp where light is not needed.

There are no standard rules for customizing classroom lighting. Flexibility is the key. Every teacher will set up the classroom to meet their style and methods. Furthermore, every teacher will need different levels of lighting for comfortable vision. Customizing works best when the teacher and the building service manager work together to find the best solution.

To identify delamping opportunities in his school, one building service manager came up with the idea of mounting cardboard on a pole in order to block out the light from a light fixture to simulate what it would look like by delamping. That way, he could go around the classroom with the teacher and select specific fixtures to delamp. The teacher could see how the classroom would look without any guess work.



You can delamp easily over doors, computers, televisions, and in storage areas. Keep the lights over the study areas where students will be reading and writing at about 30 foot-candles. An added benefit of delamping is that when conditions change, lamps can easily be replaced by in-house staff.

Young, healthy eyes are able to adjust to a wide range of light levels without difficulty. As people age, their eyes become less flexible with varying levels of light and detailed work becomes harder. Keep this in mind as you ask teachers to delamp. Lighting levels that are appropriate for one person may be unsuitable for another. Consider task lights with compact fluorescent bulbs (CFL) at work areas to increase light levels at the work surface. Lighting consumption after regular school hours can be greatly reduced if teachers switch off overhead lighting and rely on task lighting, like a desk lamp. For good measure, equip that lamp with a CFL rather than an incandescent light bulb. Energy efficient lighting design today should be about 1.5 watts per square feet. With modern technology, that could come down to 0.9 watts per square feet.

Dirt, Dust, and Diffusers

Dirt and dust can reduce the output of your lamps by as much as 20 percent annually. Keep the lights at their brightest by cleaning the light fixtures, diffusers, and lamps. Normal maintenance procedures call for an annual cleaning, but depending on room conditions, more frequent cleanings may be necessary. Diffusers are the plastic covers over the lamps. Over time, the diffusers can turn yellow or brown, and significantly reduce light output. Unfortunately, this discoloration cannot be cleaned off. For safety, the diffusers should not be discarded, leaving the fluorescent lamps exposed. Instead, relocate the discolored diffusers to another fixture where lighting is not critical, such as a delamped fixture. Put the newest and brightest diffuser where good-quality lighting is needed most.

Gymnasium and Outdoor Lights

Your gym may have metal halide or mercury vapor lamps instead of fluorescent lights. It is not practical or recommended to turn mercury vapor lights on and off for short intervals because these lamps need a few minutes to reach their full brightness. The best SERT strategy is to schedule when the lights are turned on and to control the number of banks used with the switches. Mercury vapor lamps consume 200-400 watts each, depending on the type and the area of school that they being used, so the potential savings from controlling these lights is very significant.

Ensure outdoor light controls are working properly. Some outdoor lights are controlled by timers or light sensors. With the timer controls, make sure they are set correctly, according to changes in seasons. Also, be sure to check if your timers can be affected by a thunderstorm. Photocell types of control are designed to automatically turn lights on at dusk and turn them off at dawn. If outdoor lights are on during the day, it is an indication that photocell control sensors have failed or timer needs to be reset. Promptly inform the building service manager to take further actions to correct the problem.

Outdoor lights that are left on during the day are a complete waste of energy. They also announce to the community that we are not being careful about energy use. Fortunately, this is an easy problem to spot and correct. It just takes developing an eye for seeing energy waste.

MCPS utilizes digital time clocks designed for exterior lighting throughout the system. These electronic clocks have digital accuracy, daily sunrise/sunset adjustments, 7-day capacitor backup for power outages, and can download programming from a notebook PC. This will save hundreds of thousands of dollars each year. These new clocks will alleviate some of the mechanical and operational problems we have experienced with the original clocks, resulting in increased efficiency.

Research shows that night time security is improved by eliminating outdoor lighting or tying it to motion sensors. MCPS policy also requires that parking lot lighting be turned off between midnight and 5:00 a.m. Contact the SERT program about adjusting the exterior lights at your school. Check to see if your school has updated their time clocks. If not, please contact SERT to discuss the installation.

Areas with Natural Light

There are the electric lights that do not need to stay on all day and waste energy, because once the sun is out people do not even notice that they are on anymore. These areas are often stair cases, perimeter hallways, classrooms, lobby areas, offices, media centers, and cafeterias. Changing from key switches to toggle switching in all-purpose rooms and cafeterias can help to conserve energy by allowing the user to adjust lighting taking into consideration natural daylight. The ability to turn off the lights when leaving instead of leaving them on all day certainly can conserve energy.

The SERT Patrol and/or building services should make it part of their routine in the morning to turn off lights that will not be needed during daytime anymore. It helps to make a list of those lights.

Building service staff should monitor the building during the summer months to make sure lighting and computers are turned off in unoccupied areas during peak hours. This helps to reduce our energy costs throughout the year. Our utility rates are based on our peak energy usage during the summer months. From 3:00 p.m. to 5:00 p.m. all energy use should be minimized through conducting sweeps throughout every building.

Rooms Without Natural Light

Post "turn lights off" signs in rooms that are not always occupied and have no windows, like restrooms, storage areas, gyms, and copy rooms. In some cases, occupancy sensors may make sense, so the lights can be turned on and off automatically. Contact SERT program staff if there are areas in your schools that may benefit from installing occupancy sensing light switch.

Examples of some of the amazing light switch covers created by students at Richard Montgomery High School.

Emergency Lighting

Many building service managers (BSMs) are using only the emergency lighting with natural daylight to illuminate hallways. Regular lighting is used after dark and when it is cloudy outside. Emergency lights may also provide adequate light levels for corridors after school hours, use the light meter to check adequacy of lighting.

Conservation in Classrooms

The students in one high school affixed customized light switch covers to motivate students and staff to turn off their lights to conserve energy. The environmental club also applied computer monitor labels to remind students and staff to turn off computers and monitors. There are many strategies that will work in almost any classroom. Consider these:

- Assign a student to turn off the lights when leaving the room. You may want to assign them the title of "Classroom Energy Manager" and the responsibility to look for other opportunities to save.
- Assign a student as the "Outdoor Light Monitor." The patrols or students who raise the flag in the morning could check to make sure parking lot lights are off. If parking lot lights remain on during the day, notify your building service manager.
- Arrange your room to take advantage of natural light.
- Use the switches to control light banks in the room.
- Be aware of activities that provide an opportunity to lower light levels such as story time or when using an overhead projector, or promethean board.
- Use the blinds to allow natural light into the room. Adjust the blinds so that light reflects off the ceiling to prevent glare while spreading light over as much area as possible.
- Blinds work well as insulators. Close them at night in the winter to help keep the heat in. Open them during the day to gain the additional light.
- Keep the lights off in coat rooms and storage areas and turn them on when needed.
- Keep blower vents clear and unobstructed. When the blower unit is blocked, it has to work harder to heat or cool. It is like driving your car with the brakes on.
- Have a task light on your teacher's desk and turn off overhead lights when students are out of the classroom.
- Eliminate the use of electric space heaters. We also strongly discourage the use of auxiliary electrical appliances such as mini refrigerators.
- Post conservation strategies in a visible place in the classroom.

Promethean Boards

Promethean Boards (PB) use less energy than a conventional overhead projector. They should be powered off if they are not being used for a long period of time. It is not recommended to turn PBs off between classes because the projector needs to cool completely before being turned on again. Promethean Boards should never be unplugged.

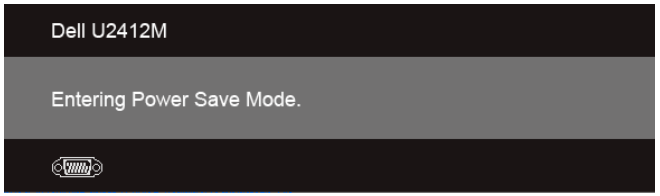
Computer Use

Assign a "Computer Captain" to shut down the computer at the end of each day. It is recommended to shut down and turn off the monitor after each use, unless a new user is waiting. Only LAN Fileservers should be on 24 hours a day. To save energy with file servers, turn off the monitors if you can. You only need the monitor when you are working with the programs. Place a sign on the monitor stating, "The file server is to remain on at all times; the monitor is off for energy conservation."

Turning your computer on and off by following the proper shut down procedures will not hurt your hard drive or programs. Keeping your computer on for 24 hours a day is like keeping your television on all day. It just does not make good sense.

The exceptions are Energy Star® systems. These will go into a sleep mode after a set period of inactivity. If your monitor has this feature, be sure it is activated. The SERT program recommends that computers be shut down at the end of the school day. When performing a manual shut down, be sure to follow the correct power-down procedures. Also, don't forget to ask the last users to turn off printers, scanners, and any other computer equipment, at the end of the academic day.

Save energy and reduce wear and tear on your hardware by shutting down your computer at night. You'll save an average of $90 in electricity a year. The Department of Energy recommends shutting off your monitor if you are not going to use it for more than 20 minutes, and the whole system if you are not going to use it for more than two hours.



Printers should be turned on only during working hours. Assign someone to shut down printers, scanners and other office equipment at the end of each school day. Printers in classrooms should be shut down overnight. The exceptions are those printers which are connected to computers that receive printout alarms such as the energy management computers.

Make adjustments for different lighting needs

To increase comfort for computer users, reduce the lighting at computer stations. Glare, eye strain, and fatigue are all related to lighting that is shining on the monitor. Adjustments can be as simple as experimenting with the switches and utilizing the window blinds. Adjust the blinds so light is bounced off the ceiling, giving a more diffused and subtle lighting. In classrooms, resource rooms and the media centers, try removing some lamp tubes in fixtures over the computer. Typically, 15 foot-candles are enough.

In computer labs, use floor lamps with a compact fluorescent lamp and switch off all the overhead lights. Lighting the wall and ceiling areas is more comfortable for computer users and eliminates reflective glare on the screens.

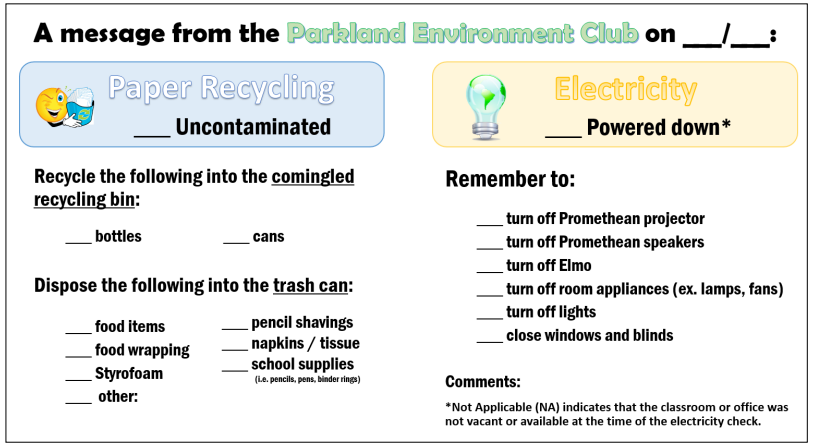
Office Equipment

The fastest growing energy users in many buildings are the machines we use in them. In some cases, the energy used per worker by computers, printers, copiers, scanners, and other equipment may exceed the energy used by lighting. Like lights, these machines need to be turned off at the end of regular hours. If staff needs to stay late, turn off the large copiers and select a smaller one for the less intense use. Adjust equipment to control temperature/ speed or setting that uses less energy but still does the job properly. Ask for these features when purchasing replacement or new equipment and look for the Energy Star label. A list of Energy Star® products can be found at www.EnergyStar.gov.

Will this really make a difference?

By reducing the “on” time from 24 hours per day/7 days a week to 9 hours a day/5 days a week, you have reduced the consumption by 60 percent! Now consider the amount of computers in classrooms, computer labs, resource rooms, and offices. The results may surprise you.

SERT Patrols



SERT Patrols have become increasingly popular among the various activities that school based SERT teams engage in to ensure conservation at their schools. Although responsibilities differ from school to school, most SERT Patrols conduct inspections of classrooms and offices at their school to ensure that any unnecessary energy use is limited and to ensure that recyclables are contamination free. Many of the patrols leave positive reinforcement messages in classrooms and office spaces were perfect compliance is observed and may leave leaving "friendly warnings" when compliance is not observed. These activities not only promote positive reinforcement for good compliance but also help to improve occupants' behavior to conserve energy and recycle responsibly.

How SERT Patrols Work

SERT Patrols work very effectively with elementary students. It is easy, action oriented, and the students enjoy their responsibilities and have a lot of fun. Under the direction of a staff member students check for unoccupied rooms where the lights are left on. They leave tickets to remind classmates, teachers, and staff to turn lights and equipment off after inspections. Some SERT Patrols leave a happy face recognition ticket where they find the lights turned off. There is a classroom checklist and a certificate that can be used to celebrate consistent energy aware behavior. Students can also check computer monitors and other equipment left on when not needed.

Implement a daily or weekly check for opportunities to locate unnecessary lights and equipment. It is a good idea to schedule a light patrol before lunch and after school to inspect the school building including the relocatable classrooms. Visit our website for additional information under SERT Patrols for a turnkey packet with a checklist, certificates, and reminders to start this program at your school or to simply improve your existing team.

If you need help starting a student SERT Patrol, get in touch with your school's designated facilitator.

Conserving Energy in the Kitchen

There is a lot going on in the kitchen. With a sharp energy eye, you will find many opportunities to reduce waste. The SERT program recommends working closely with the food services staff to ensure that health and safety regulations are not compromised. Energy savings can be achieved by keeping the “on” times as close as possible to the actual use. Here are some examples:

- Pre-heat ovens no longer than 15 minutes. Electric ovens consume a lot of energy so they should be controlled as close as possible to actual cooking time. All ovens should reach working temperature within 15 minutes. If the ovens require significantly longer pre-heats, contact the maintenance depot for repairs.
- Use the kitchen hood exhaust fan only when ovens are on. The kitchen hood exhaust fans are used to remove the fumes when cooking, this is an important safety factor. Operating the hood fan while the ovens are not in use is not recommended because the hood fan draws large volumes of conditioned air (room air that has been air conditioned or heated) and exhausts it outside. Allowing these fans to operate uncontrolled will significantly increase the utility costs.
- Only use lights that are needed, when they are needed.
- While the food is being prepared or when the kitchen is being cleaned, try to delay turning on the lights over the serving line until the lunch period begins.
- Delay turning on appliances such as warmers, mixers, etc., until they are actually needed.
- Keep refrigerator coils clean and free of obstructions.
- Use thermometers in refrigerators and freezers to control actual temperatures.
- Consolidate food (perishables) in one walk-in unit and turn off free-standing units.
- When closing the kitchen for long breaks and the summer, all items should be removed from the free standing refrigerators and placed in walk-in units when possible. Free standing units should be cleaned out, turned off and unplugged. In the event of power failure, food left in smaller units may spoil and go unnoticed after power is regained. Remember, food that is thawed and then refrozen/refrigerated is a safety and health hazard.

Prohibited Heat-Producing Appliances in School Buildings

MCPS limits the use of certain heat-producing and non-heat-producing appliances in school buildings, including classrooms and instructional and/or support rooms. The use of microwave ovens, toaster ovens, coffee pots, hot plates, other heat-producing appliances and refrigerators is limited to the following locations within all schools:

- Designated teacher/staff lounge
- Designated kitchen area within the school
- Two or three designated team rooms per floor

Montgomery County Public Schools
SYSTEMWIDE SAFETY PROGRAMS

Also, the use of heat-producing and non-heat-producing (e.g., mini-refrigerators) appliances in classrooms and instructional and/or support rooms is prohibited within all schools. The prohibited heat-producing and non-heat-producing appliances include the following:

- Microwave ovens
- Toaster ovens or toasters
- Coffee machines
- Hot plates
- Refrigerators
- Any other appliance prohibited by MCPS
- Popcorn poppers
- Electric, charcoal, or gas grills
- Electric space heaters (temporary basis only)*
- Dehumidifiers*
- Air cleaners*

**Item is allowed only if approved by MCPS Division of Maintenance or Environmental Services/Indoor Air Quality.*

Centralizing these appliances reduces risk and safety concerns by controlling access, limits the number of hazard points in the school, and lessens the possibility of misuse. These heat-producing appliances and non-heat-producing appliances are not appropriate in classrooms.

Appliances such as refrigerators and microwaves used for specific day-care groups, kindergarten, or child development programs to keep liquids refrigerated and then heated to a desired temperature (e.g., formula and/or milk for infants) will be allowed in specific daycare rooms, kindergarten classrooms, and child development rooms. This exception will include any appliances mandated to meet medical needs of students and staff.

Adherence to the above limitations and prohibitions will lead to a positive learning and working environment and one that is safe and energy efficient. Centralization, limitation, and prohibition of these heat-producing and non-heat-producing appliances benefit our schools and facilities by reducing energy consumption, reducing the possibility of electrical system overload, or the necessity of increasing electrical capacity. In addition, it is an electrical safety violation to use extension cords or portable power strips (surge protectors/multi-strip plug-in receptacles) as a substitute for permanent wiring when using these appliances. Appliances used in teacher/staff lounges, designated kitchen areas, or two to three designated team rooms per floor must be plugged directly into wall outlets and have ground prongs to be in compliance with electrical safety regulations. All appliances must be Underwriters Laboratory (UL) approved.

Heat-producing and non-heat-producing appliances used in the instructional program (hot plates, autoclaves, refrigerators) must be obtained from the MCPS approved bid list.

For more information about prohibited heat producing appliances, please contact the Systemwide Safety Programs, Department of Facilities Management at 240-314-1070 or visit http://www.montgomeryschoolsmd.org/departments/facilities/safety/firesafety.aspx#appliances.

Frequently Asked Questions About Energy Conservation

What is the biggest consumer of electricity in my school?

The electricity consumption in schools can basically be divided into thirds: 1/3 HVAC, 1/3 lighting, and 1/3 plug loads. Students and staff can have an immediate and direct impact on two thirds of the energy consumption by simply turning off lights, unplugging equipment not used, keeping doors, windows, and blinds closed, etc. Report problems with heating and cooling problems to the building services manager. Lighting and plug loads are easily controlled by building occupants. Remember, if you don't need to have an electrical appliance on, turn it off!

What should I do if I see examples of wasted energy?

If it is as simple as turning off the lights, just do it! Be proactive and help everyone by modeling energy-aware behavior. When appropriate, use these opportunities to educate others. Contact your SERT facilitator for further assistance.

What can schools do to conserve resources when outside groups are also using the building?

With the growing needs of our communities, our schools are operating on the weekends and long into the evenings year round. Before- and after-school programs, adult night education courses, community meetings, and weekend functions are just a few of the activities that take place. Additional usage of the buildings parallels an increase in energy and water consumption and provides additional opportunities to promote conservation and increase recycling rates. This can be an opportunity to build wider awareness of the school's efforts to conserve resources and save taxpayer dollars. To spread the word, SERT teams should post special notices in area most used by those groups. Organize a meeting with your local community cluster to discuss strategies to promote recycling and conserve energy during after-school hours. Let community users know that their use of excessive lights or their practice of leaving outside doors open when the building is being heated/cooled directly impacts your school's energy consumption. You'll find more people willing to cooperate if they are made aware of your goals. Consistent and clear communication is one of the main keys to a successful SERT program.

Does it actually cost more to turn the fluorescent lights off for a minute than to leave them on?

No! Modern fluorescent lamps are “rapid start” or “instant start” lights. Once you turn them off, you will start saving energy immediately. There is no appreciable increase in energy usage to turn them back on. So the next time you say, “I’ll be back in a minute,” and then you return 20 minutes later, consider how much energy you could have saved by turning off your lights before you left.

Will I really save energy if I remove a light tube from a fluorescent fixture?

Yes! The electrical current that goes to the remaining tubes will increase marginally (one watt per tube), but electric consumption is reduced by 40 watts per tube on the older T-12 system, and 25 watts per tube on the newer T-8 lights for each bulb removed. Call your SERT facilitator to borrow light meters to check areas that you feel may be overly lit. The removal of lamps must be done by authorized MCPS staff only.

Will I burn out the ballast if I take a tube out of a fluorescent light fixture?

Your ballasts will not burn out because a tube has been removed. A ballast is an electrical component used in fluorescent lighting systems. The manufacturer’s design engineers have stated that heat from electrical current degrades the ballast. With less current, there is less heat, and thus, less wear. Ballasts do fail for a variety of reasons, but not fail prematurely because a tube has been removed.

Why do I see some teachers working in their rooms with just a desk lamp on?

These teachers are participating in energy-saving strategies recommended through their SERT team. The desk lamps are used when students are not in the classroom. Task lamps provide enough illumination on a desk to take care of daily administrative duties and paperwork without lighting the entire room when students are not present. The task lamps are easy to place on a desk or work station and are a great energy-saving alternatives for those who need light at their desk, but not in the entire classroom. We encourage task lamp usage during periods when students are not in the room (lunch, rotation, after school, etc.).

To calculate your savings, multiply the number of light fixtures in your room by the number of lights in the fixture, then multiply that by the wattage of the bulbs. Then compare this number to the 23 watts of energy used by the task lamp.

Task lamps may be ordered through FMS along with compact fluorescent light bulbs. Contact your SERT facilitator if you have further questions.

Who controls the operating schedules for heating and cooling in my school?

Two basic methods are used to control the heating and cooling in MCPS schools. The most common method is through computer-controlled energy-management systems. A calendar of your school's monthly activities (normal school hours plus evening community use) is used to determine the operating schedules for the heating and cooling systems. Call Energy Management Systems (EMS) at 240-740-2530 if changes need to be made to the schedule.

Some schools are not directly linked to the energy management system. In those cases, the building service manager has direct control of the heating and cooling equipment. Either situation provides opportunities to clearly align heating and cooling operating periods within the school through conscientious scheduling. Consolidation of after-hours use of the building into one heating/cooling zone, when possible, promotes conservation and reduced energy consumption.

What are the correct temperature settings for heating and cooling?

The standard MCPS temperature setting during the heating season is 70°F. The standard temperature setting during the cooling season is 76°F. Everyone has his or her own comfort level at different temperatures, especially at different levels of relative humidity. How comfortable you feel depends on your physical ability to adjust and how appropriately you are dressed for each season. Layering your clothing keeps you more flexible especially during the spring and late fall during the changeover period from heating to cooling and from cooling to heating.

Unlike residential air-conditioning and heating systems, most of our schools cannot switch from heating to cooling because the same piping is used alternately for heating and cooling. The Division of Maintenance technicians must open and close various valves in the piping system in a process that may take up to two days in your school and approximately three weeks to convert all schools depending on the weather.

What can I do if the room is too hot or cold?

If your room temperature is uncomfortable, first measure the actual temperature and then call the building service manager. If necessary, have the thermostat setting checked. Also, check to make sure the unit ventilator is not blocked. The area on top with the vents and the bottom of the unit need to be clear. If either top or bottom is blocked, then it will waste energy and leave you more uncomfortable. Space heaters are not allowed in the school building and can corrupt the thermostat readings causing further discomfort. Collect information on actual temperature and thermostat readings, and inform you building service manager before the Energy Management Systems (EMS) is contacted. Opening windows can exacerbate the problem and should be avoided, unless absolutely necessary.

Are electric space heaters allowed in the school?

Use of electric space heaters are prohibited in MCPS schools. These units, in addition to having high energy costs, are a fire and safety hazard. Only heaters installed by the Division of Maintenance for emergency use will be permitted; any others must be removed immediately. See page 28 for information from Systemwide Safety Programs.

Is the use of personal refrigerator, microwaves, and other small appliances allowed?

The use of personal refrigerators, microwaves, and other small appliances are prohibited in the classrooms and offices. Energy efficient appliances are encouraged in shared teams rooms or staff lounges.

Will it harm my computer or software if I turn off my CPU?

Always follow the procedures to exit your software programs before shutting down your computer. The general rule of thumb for the components is to treat your computer as you would your television. Why leave a TV on when nobody's watching? Whenever possible, turn your computer off. If you are having problems with your computer, it is most likely due to a hardware or software glitch, not anything to do with turning the computer off. These days, restarting your computer may often be more beneficial than harmful. Remember the first question IT staff will ask when you're having a computer problem is, "Did you restart it?"

How much energy does a screen saver save?

None! The screen savers prevent the monitor screen from burning in an image displayed over a long period of time. But that does not save energy. Sleep programs, which darken the screen, actually do save energy and should be enabled on all computers so equipped.

Best Practices for Recycling

Montgomery County Public Schools actively participates in responsible recycling as mandated through Montgomery County Executive Regulation 1-15 and MCPS Regulation ECF-RC. Recycling bins, posters, labels, and other resources are available to schools through the SERT program to help schools increase their recycling participation.

SERT believes that successful recycling programs begins with identifying a recycling leader in each school who helps coordinate the recycling effort. Effective leadership in any program is the key to increase productivity, and inspire students, staff, and community members to actively recycle.

The SERT recycling manager is available to meet with school recycling coordinators and school-based teams to develop strategies, increase knowledge, and create a recycling awareness campaign throughout the school.

Students and staff are able to participate in various contests that promote resource conservation and recycling through the *Watts Up?* poster contest, the *Lead by Example* awareness campaign, the *Got Paper?* recycling contest, and the *Drive for Supplies* campaign.

Involving students in the recycling effort will improve performance proves and increase recycling rates. Students can participate in classroom monitoring, centralized station monitoring, collection, public awareness campaigns, and/or simple feedback systems.

There are hundreds of solutions to successful recycling. At some schools, students from the Student Government Association (SGA) and environmental clubs have joined to assist with recycling collection after school. Increase the effectiveness of your SERT Strategic Triangle by customizing your schools' program. Developing partnerships with administration, school staff and students, and the community in the recycling effort helps spread responsibility and increase participation.

Having a basic recycling infrastructure within a building is another necessary part of an active plan. All classrooms should be equipped with paper recycling Slim Jim® bins with paper lid and also a paper desk side recycling bin at each teacher's workstation. Providing building occupants with centralized recycling stations in hallways will encourage and promote responsible recycling and increases recycling participation while reducing solid waste. Each centralized station should consist of a commingled (bottles and cans), paper, and trash container.

Proper recycling signage and labels to help identify bins are available through the SERT program. All bins should be appropriately labeled for their intended use – commingled, paper, or trash. Properly labeled bins that have the correct lids help to reduce contamination and further promote awareness and demonstrate proper recycling program implementation.

Raise awareness about the importance of recycling

One of the goals of Poolesville High School students was to make sure that the recyclables and trash were placed in proper containers. They identified that to decrease the rate of contamination, they needed to provide signage on all bins that is clear and consistent throughout the school. They also promoted the idea that each person can make a big difference in ensuring environmental sustainability.

The focus for Ashburton Elementary School's SERT Team in 2015 was to reduce the contamination in their centralized recycling stations. To help build awareness of this problem, this school-based SERT Team collected weekly data on the number of recyclables and contaminates in the recycling bins throughout the school. Students analyzed the data and posted graphs at each bin to show how many recyclables and contaminants were found in specific bins. The students on the SERT Team found that some bins were more likely to be contaminated than others, so they increased signage and public awareness in those locations. By posting the graphs weekly, each student and staff member at Ashburton was informed about the school's recycling efforts.

To celebrate Earth Day, Bells Mill Elementary School had each class design and decorate their classroom recycling bins with recycled or reused materials. Each bin has a theme: some were decorated as *"Despicable Me"* minions while others were dressed as a bear family. Once the bins were designed and created, each class puts their bin in the hallway. Each class was allowed to take a tour of the school and admire the great artwork by their peers and classmates. A vote was taken and the winner was announced at the end of the day.

Exterior Recycling Bins

An exterior recycling container program has been implemented to increase the capture of commingled and paper recyclables outside of the school building. These bins should be scheduled to be emptied each day to reduce contamination, avoid potential issues with pest management and controlling odor. All high school stadiums are equipped with additional containers for commingled recycling of bottles and cans alongside the trash containers. Outdoor commingled bins have also been provided to middle and high schools. The should be placed around tennis courts, baseball fields or any areas where high volume of recycling can be captured. Exterior bins have also been provided to elementary schools and placed in playground areas.

Interior and exterior recycling bins should be made available for Interagency Coordinating Board (ICB) and athletic activities. Recycling continues inside and outside of the building after hours due to community use. Instructing the staff who work at the building over the weekend on the proper procedures for capturing and disposing of recycling can help reduce contamination and help increase recycling participation.

Routinely check to make e sure that recycling bins are located next to every trash bins so that staff, students, and community users are able to recycle consistently to help improve recycling rates and decrease contamination.

It is especially important to provide adequate recycling bins in the cafeteria and areas where breakfast and lunch meals are served. Elementary school lunch meals are served in recyclable containers. Students should be encouraged to tap their remaining food into a trash container and then put the trays in a recycling bin. Schools participating in the Maryland Meals for Achievement program should have hallway centralized stations situated approximately every four rooms.

Recycling Bins

Recycling bins, labels, and posters are available through the SERT program and can be ordered through the Maximo system using the Grounds code. SERT award funds may be used to purchase additional recycling bins that are not provided by the SERT program directly through the Financial Management System (FMS).

Recycling bins should be used for recycling only. Salt-sand should never be stored in recyclable bins. Proper bins to store salt-sand have been provided to each school. New or old lamps, gym equipment, or anything material should not be stored in the recycling bins.

An example of what NOT to do with a recycling bin!

Recycling Dumpsters

MCPS requires that all exterior dumpsters for recyclable materials to be locked at all times and should only be unlocked when recycling material is being placed in dumpster. The pad locks do not have to be unlocked for recycling dumpsters to be serviced by the recycling hauler. The schedule for dumpster servicing is posted on our website.

Gravity bars should always be placed in the locked position. The only time they should not be in the locked position is when recycling is being loaded through the top lids.

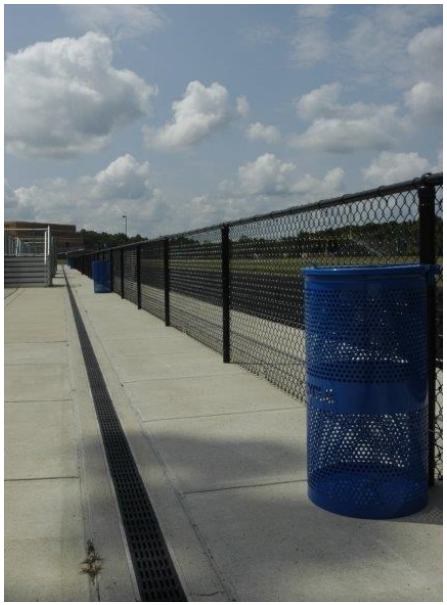
Recycling contamination occurs when dumpsters are left unlocked. If a school's dumpster is contaminated with trash and the recycling goes into the truck, MCPS could lose up to 5 tons of recycled material from approximately 30 schools that are being serviced on that particular day. It just takes one contaminated dumpster to ruin an entire truckload of recyclables that some many students and schools diligently worked to collect.

During the winter months, remember to keep a clear path around your paper and commingled dumpsters so that the recycling hauler can service your dumpsters on the regularly scheduled days.

Stadium Recycling

All stadiums should be equipped with bottle/cans recycling bins and strategically placed at the home and visiting seating areas. All stadiums should be equipped with exterior recycling stations that consist of paper, bottle/can recycling, and trash bins located by the concession stand. Making announcements during games, when possible, to inform guests where the recycling bins are located and to remind guests to use the recycling containers promotes awareness and continues our culture of conservation.

Reminders should be posted to empty all recycling bins at outside areas appropriately to avoid overflowing of the bins and contamination during the weekends. All recycling bins should be emptied promptly after each event.



Recycling in Work Rooms

A significant amount of recyclable paper is generated in work room areas. Ensure that all work rooms have proper sized recycling bins for paper. Posting adequate signage identifying the paper bin is helpful in preventing contamination of the paper that others have recycled. It is also recommended that work rooms are provided with a bottle/cans recycling bins.

Recycling in Kitchens

All kitchens should have clearly labeled and designated containers for recycling only. Dedicated containers for bottles and cans should be placed with signage in all kitchen areas. Metal food containers designated as #10 cans and other plastic food service containers should be treated as recyclable products and should be rinsed out prior to recycling. Larger recycling containers to hold the larger cans commonly generated in kitchens can be ordered and used to increase recycling collection in the kitchen.

All food service paper products free from food contamination should be recycled in a paper recycling bin. Workstations with recycling bins should be set up in all kitchens for convenient use. A deskside paper bin should be provided in the kitchen manager's office. Kitchen staff should coordinate with building service staff if additional recycling pick-ups in kitchens are needed due to increased volume during certain times of the year.

Recycling Specific Items

Toner Cartridges

Remember to recycle all laser and inkjet toner cartridges. Post instructions near all printers for repacking and returning cartridges to be recycled. Printer cartridges can be repacked in original boxes and returned to Department of Materials Management. For more information, please visit http://www.montgomeryschoolsmd.org/departments/materials/order-supplies/order-recycle.aspx.

Fluorescent Lamps

Fluorescent lamps should be recycled appropriately by requesting lamp recycling boxes. For more information, visit https://www.montgomeryschoolsmd.org/uploadedFiles/departments/facilities/schoolplantops/LAMP%20RECYCLING%20INSTRUCTIONS.pdf .

Batteries

You may send small, rechargeable batteries, such as NiCd, Li, and Lead-acid batteries found in radios, laptops, and cell phones, that are sealed, intact and have no leaks via Pony to SERT and we'll take care of recycling them properly. Send recyclable batteries to:

John Meyer, Recycling Manager
SERT Program
45 West Gude Drive
Suite 4000
Rockville, MD 20850

Frequently Asked Questions About Recycling

What should the focus of my efforts be in recycling?

Schools should focus on the four mandatory recycling streams set forth by Montgomery County Regulation 1-15 and MCPS Regulation EC-FC. These govern the recycling of paper, commingle, yard waste, and metal. Schools have direct responsibility and the ability to recycle paper/cardboard, commingled recyclables, and yard waste. Although at the school level you may not have much metal to recycle, MCPS recycles hundreds of tons of metal each year the maintenance facilities, transportation depots, and construction projects.

How do I order new recycling bins and lids?

Contact your school SERT/recycling leader. When central funds are available, the building service manager can order the bins through the Maximo work order system using the "Grounds" code or by emailing recycling@mcpsmd.org. These bins will be available free of charge. Instructions on how to place these orders with information on the various types of bins can be found on our website.

Other than the most commonly used recycling bins in schools, you are encouraged to use SERT funds to order specialty bins available through FMS. Please contact the SERT recycling manager if you need assistance in ordering.

How do I order recycling labels and posters?

Contact your school SERT/recycling leader or building service manager. Labels and posters can be ordered through the Maximo work order system using the "Grounds" code or by emailing recycling@mcpsmd.org. Instructions on how to place these orders with information on the various types of labels and posters can be found on our website. Please contact the SERT recycling manager or if you need assistance in ordering.

What do I do with recycling material that is contaminated?

If you find a recycling bin mixed with trash in it, the entire material in that bin is contaminated. In these cases, all of the recycling material must be placed in the trash. To avoid contamination and increase your school's recycling rates, please make sure that there is a trash receptacle next to all recycling bins. This allows our building occupants to dispose of recycling and trash properly. To reduce contamination, consider using restrictive lids for recycling bins. These lids can be ordered through the Maximo work order system using the grounds code or by emailing recycling@mcpsmd.org. Instructions on how to place these orders with information on the various types of lids can be found on our website. Please contact the SERT recycling manager if you need assistance in ordering.

How do I find out when my recycling dumpsters will be emptied?

The recycling dumpsters at your location are serviced on the schedule posted on our website any time between 7:00 a.m. and 6:00 p.m. Blocked dumpsters cannot be serviced. Please keep the area around the recycling dumpsters clear at all times.

How do I access my school's recycling data?

Visit the SERT website to access your data. We update your data sheets on a monthly basis.

How is my recycling percentage calculated?

During your routine recycling pick-ups, the recycling truck captures the weight of the contents in the paper recycling dumpster and the commingle dumpster utilizing its trucks onboard weighing scale. At the end of each month, these weights, by school, separated by paper/cardboard and commingled recyclables are reported back to the SERT program. Only the weight of paper and commingled items is used to calculate the Pounds per Person (PPP) report.

The formula for calculating PPP = (monthly weight of paper/cardboard + commingled) / (total number of students + staff).

What should I do if I suspect my recyclables are not being recycled?

If your problems cannot be resolved within the school community, please contact the SERT recycling manager for assistance or email recycling@mcpsmd.org.

What if my school is recycling other material?

If your school is participating in any other recycling program other than the mandatory paper, commingle or yard waste, please fill out the voluntary recycling form (MCPS Form 201-9). You may email this form to recycling@mcpsmd.org or fax it to 301-279-3005. Your school will receive credits in your active school file which will help determine SERT recycling awards and the SERT program will include such efforts in its reporting to Montgomery County Division of Solid Waste Services.

Who do I contact for answers to questions about recycling?

Please contact the SERT recycling manager if you need assistance by phone (240-314-4714) or email (recycling@mcpsmd.org).

Best Practices for Water Conservation

Conservation in the School Building

- When possible, install low-flow toilets, waterless urinals, shower heads, faucets, and faucet aerators.
- Educate students, faculty, and administrative staff on the why and how of conserving water.
- Seek employee suggestions on water conservation; locate suggestion boxes in prominent areas.
- Install signs in all restrooms encouraging water conservation.
- When cleaning with water is necessary, use budgeted amounts.

Kitchen and Laundry Areas

- Turn off the continuous flow used to clean the drain trays of the coffee/milk/soda beverage island. Clean the trays only as needed.
- Presoak utensils and dishes in standing water instead of using running water to rinse.
- Wash vegetables in standing water. Do not let water run in preparation sink.
- Only wash full loads of clothes.
- Evaluate wash formula and machine cycles for efficient water use.

Hot Water

Poor efficiency with hot water will waste both energy and water. It always pays to fix leaks promptly. Turn off hot water taps when not needed. You can also consider timers to control operation of the water heater-reducing energy use on weekends or over school breaks. Hot water may be used in your school solely for showers and washing hands in lavatories; it may also be used for laundry or dishwashing. The temperature setting for hand washing and showers doesn't need to be more than 120° F.

Pools

Cover pools to prevent evaporation. An average uncovered pool can lose an inch of water each week from evaporation.

Conservation on School Grounds

- Use native drought-resistant species of plants when replanting.
- Be on alert for water leaks and water main breaks. Report continuous water flow and ponding of water to the building service manager immediately. Repair leaking faucets.
- Do not use school water supplies or the school grounds to wash automobiles, buses, and trucks.
- Do not allow local residents, road maintenance tankers or other non-MCPS agencies to use school water supplies, school hose bibs, or to control irrigation.
- Water should not be used for landscape and grass except by contractors during initial establishment of trees and plants.
- Mulch around plants to reduce evaporation and discourage weed growth. Apply mulch annually. Use mulching mowers. Leave mulch on grass to fertilize and reduce moisture loss.
- Remove weeds and unhealthy plants so that the remaining plants can benefit from the water saved.

Irrigation Procedures for High School Athletic Fields

- Water athletic fields when the ground is dry and preferably no more than two or three times a week. The amount of water used by one sprinkler in one hour is equal to the daily water needs of a family of four. You can use an empty tuna can to measure if you had 1 inch of rain per week, which is the amount of water grass needs during the growing season (mid-April through the end of September). If you can poke the wrong end of a pencil in the ground for about two inches, the topsoil moisture is sufficient.
- Water athletic fields during the coolest part of the day (preferably morning or late evening) and never water on windy days. As much as 30 percent of water used can be lost to evaporation by watering lawn during midday. Make sure irrigation equipment applies water uniformly.
- Investigate the advantages of installing drip irrigation systems. Install soil moisture overrides or more sophisticated weather sensitive controls on irrigation systems.
- Ensure that automated irrigation systems turn off when it rains. Installation of rain switches is highly recommended to avoid this problem.
- Avoid runoff and make sure sprinklers cover just the lawn or garden, not sidewalks, driveways, or gutters.
- Avoid excess watering. Excessive watering promotes fungal growth and prevents the development of long, deep root systems needed for healthy turf.

Landscape Design

- Limit grass areas and use trees, shrubs, and other plants that require less water to landscape your yard. Grass turf requires 30-50 percent more water than shrubs and other groundcover. Landscape with MCPS-approved drought-resistant plants.
- Use water-saving landscape and irrigation systems.
- Use captured rainwater/recycled water where possible.

- Efficiently design playfields to reduce irrigation needs.
- Increase mowing height to 2-3 inches and apply mulch to reduce evaporation and prevent weed growth.
- Use a broom rather than a hose to clean decks, sidewalks, and other paved areas. Five minutes of running the hose uses 25 gallons of water. Where possible, collect rainwater for reuse in the garden.

In Operations/Maintenance Policies and Practices for Plant Equipment Operators and Building Service Managers

- Regularly check water meters, even during no-occupancy months.
- Establish method to regularly check building for water leaks and report to maintenance staff for repair.
- Repair dripping faucets, showers, and continuously running or leaking toilets. Install flow reducers and faucet aerators in all plumbing fixtures whenever possible.
- As appliances or fixtures wear out, replace them with Energy Star models that use less water and power.
- Shut off water supply to equipment rooms not in use to prevent pipe breakage and flooding.
- Minimize the water used in cooling equipment, such as air compressors, in accordance with the manufacturer recommendations.
- Reduce the load on air-conditioning units by shutting air conditioning off when and where it is not needed, if you are not controlled by centralized Energy Management Systems (EMS). Contact EMS (240-740-2530) or the respective maintenance depot with air-conditioning control issues.
- Ensure that hot-water pipes insulated, promptly inform the maintenance depot is repairs are needed.
- Instruct building service staff to minimize water use for mopping wherever possible.

Frequently Asked Questions About Water Conservation

What should I do if I see examples of wasted water?

If it is as simple as turning off a faucet, just do it! If you see that a faucet or fountain is dripping, or that a toilet is constantly running, please let your building service manager know.

What should I do if I see the athletic fields being watered on rainy days or more than two or three times a week?

Contact the school's athletic director and inform him/her of your observations.

What should I do when there is consistent ponding of water in a specific area of the school grounds?

Inform the building service manager of your observation so that further investigation can be conducted. Consistent ponding of water in specific areas for a prolonged period of time could be an indication of underground water pipe leak.

If you have questions about this Best Management Practices (BMP) guide, or would like to contribute to its contents, feel free to contact the School Energy and Recycling Team (SERT) program. We would also appreciate hearing about what you're doing in your school to conserve!

SERT PROGRAM
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Best Practices for School-based SERT Teams

Do we have any guidance for teams?

Found this picture of the Parkland Green Team with their Green Team Leader and Principal

Frequently Asked Questions School-Based SERT Teams