



Maryland State Department of Education
Service-Learning
Special Education Unit
Going Green and Staying Green

Primary Subject: Science

Grade Level: Middle School

Additional Subject Area Connections: Language Arts, Social Studies, Math

Unit Title: Going Green and Staying Green

Type(s) of Service: Direct, Indirect or Advocacy
Students participating in service-learning projects have a wide range of abilities, challenges, and needs. Teachers and parents may provide a greater amount of guidance and assistance before, during, and at project completion. Procedures and steps described in the unit may be enhanced, modified, or excluded, as dictated by the needs of the students. Various assistive technologies may be used to meet the individual needs of students in order to complete the project.

Unit Description: Students will engage in service-learning projects to improve the environment and reduce energy consumption in their school and community. As students study how to “go green,” they will recognize and describe how the activities of individuals affect the environment.

Potential Service-Learning Action Experiences: *(class should pick a project or projects that fit best with the need of the class, school, and community):*

- Become the “Go Green Patrol” for the school setting - lights turned off, recycling box being used, overhead turned off, etc. Students will issue “Way to Go (Green) notes” to people who “go green.” *(indirect)*

Maryland Curriculum Standards

Environmental Science:

Standard 6.0 Environmental Science Students will use scientific skills and processes to explain the interactions of environmental factors (living and non-living) and analyze their impact from a local to a global perspective.

B. Environmental Issues

1. Recognize and explain that human-caused changes have consequences for Maryland's environment as well as for other places and future times.
 - a. Identify and describe a range of local issues that have an impact on people in other places.
 - b. Recognize and describe how environmental change in one part of the world can have consequences for other parts of the world.
 - c. Identify and describe how ecosystems can be impacted by human activities.
 - Protection of the Chesapeake Bay watershed
 - Resource acquisition and use
 - Land use decisions (agriculture, mining, and development)
 - Recycling
 - Use and disposal of toxic substances.

Additional Standards Follow

- Make and distribute a personal energy conservation tip sheet which can be displayed in the home for consumers to reduce electrical consumption. (*advocacy*)
- Make a “green” version of the song “Who Let the Dogs Out?” and have the students share it on the morning announcements. (*advocacy*)
- Visit the appropriate website for local curb-side recycling and print schedules for their area that can be distributed at school events – Back to School Night, Parent Teacher Association meetings, etc. (*advocacy*)
- Re-purpose empty cans and decorate with bulletin board trim in order to construct back-to-school canisters for the staff. (*indirect*)
- Decorate T-shirts (using fabric paint) with “go green” slogans and then wear them on a designated day. (*advocacy*)
- Grow indigenous trees/flowers that could be planted at local parks, nursing homes, or at the school. (*direct*)
 - Research the criteria for becoming a [Green School](https://maeoe.org/green-schools-and-green-centers/green-schools-program) and then complete the application process in conjunction with the regular instructional program (<https://maeoe.org/green-schools-and-green-centers/green-schools-program>). (*direct*)
- Create posters to hang around the school to advocate for recycling at home and school. (*advocacy*)
- Initiate a school-wide recycling project that would be ongoing. Paper can be shredded and cans may be crushed and taken to the recycling center. Funds from the recycling center can be used for other "go green" projects. (*direct*)

Additional Interdisciplinary Connections



Reading/Language Arts

2.0 Comprehension of Informational Text

(A. Comprehension of Informational Text)

Apply comprehension skills by selecting, reading, and interpreting a variety of print and non-print informational texts, including electronic media.

Social Studies

3.0 Geography

D. Modifying and Adapting the to the Environment

Analyze why and how people modify their natural environment and the impact of those modifications.

Mathematics

4.0 Knowledge of Statistics

B. Data Analysis

1. Analyze data

Alignment with Maryland's Best Practices of Service-Learning: *Going Green and Staying Green*

1. Meet a recognized community need

To decrease the amount of non-renewable resources consumed within the school and the home community.

2. Achieve curricular objectives through service-learning

See Maryland State Curriculum listed above (Environmental Science). Additional objectives may include practicing skills in communication, functional math, functional reading, social and positive behavior.

3. Reflect throughout the service-learning experience

Students may help to create a photo log/journal including a student summary of experience with illustrations/photos. Students might complete a pre- and post-assessment of personal environmental practices. Students will listen to and identify music with an environmental conservation theme and discuss the messages embedded in the lyrics.

4. Develop student responsibility (Students have opportunities to make decisions about the service-learning project.)

Students will be responsible for planning and implementing the action chosen. Students will determine from a variety of presented ideas how they would like to complete the project/meet the community need.

5. Establish community partnerships

Depending upon the project/plan chosen, partnerships with local organizations and businesses could be formed to provide supplies, advertising, guest speakers, etc. for the action plan completion. Partnerships could also be established with energy resource agencies, energy choice programs, public transit/van pool organizations, and local power companies or plants.

6. Plan ahead for service-learning

Students will devise a plan to meet the project objective (address the community need). Facilitating the completion of any plan will require organizing and action steps. Letters should go to parents explaining the project and its goal.

7. Equip students with knowledge and skills needed for service

Students will explore the concepts of recycle, reduce, and reuse in order to relate the curriculum to real-life "go green" experiences. They will learn project specific skills once they select the particular action they plan to address (e.g. how to form a "Go Green Patrol," how to grow native plant species, etc.). They will discuss what it means to be a good citizen/good neighbor and how this project helps them achieve that goal. They will explore the concept of service-learning.



Procedures with Resources: ***Going Green and Staying Green***

These procedures represent an example of a service-learning lesson on this specific topic, but can be changed to meet individual classroom interests or varying community needs. You are encouraged to adapt this unit to fit your unique classroom and community and to solicit student input in planning and decision making.

1. Introduce the service-learning project by discussing service-learning and citizenship with students and engaging in activities to explore those themes. A resource to support this topic can be found at [Bringing Learning To Life](https://www.youtube.com/watch?v=o2-aoEi6FCo) (<https://www.youtube.com/watch?v=o2-aoEi6FCo>).
2. Students will explain what the term "go green" means. Students will, through the use of worksheets, printables, and coloring books, identify the components of the environmental awareness values of recycle, reduce, and reuse.
3. Students will contact building facilities personnel in their school system in order to determine what steps are being taken to "go green."
4. Explore how energy use, waste production, etc, affect the environment. Research consumption in other countries compared to U.S. to see the difference in our rate of consumption. Research the amount of natural resource used to produce, say, one plastic water bottle, and the resulting environmental damage that results from its production. Consider adding to the recycling a focus on reusing or NOT using at all. Plastic water bottles are a great example and students could design and sell reusable school water bottles. Invite the school facilities and maintenance staff to speak to the students regarding their own building and how much trash is produced, how much food is thrown away, how much water and energy is used, etc. Analyze that data before students set school goals. Involve the whole school in the efforts so all learn to take responsibility for the environment.
5. Students could take a field trip to the local supermarket/ department store to locate green products.
6. Students will read an age-appropriate book on the environment and identify the problem and possible solutions.
7. Based on research and data analysis, students will design an action plan with a timeline for implementation of what their school needs to do to "go green."
8. Additional organizations or businesses should be contacted by teachers and students to support the project once the specific action to be undertaken has been selected by the students.
9. Send a letter to parents explaining the service-learning project and its goal.

10. Students will create a photo log/journal and regularly evaluate the success and consequences of their action plan using the photo log/journal.
11. Students will carry out their selected action to improve the environment.
12. Teacher resources:
 - Booklist of children’s books about the environment at [ABC Teach](https://www.abcteach.com/) (https://www.abcteach.com/)
 - [Learning and Teaching about the Environment](https://www.epa.gov/students) (https://www.epa.gov/students)
 - [Little Green Books](https://www.simonandschuster.com/series/Little-Green-Books) (https://www.simonandschuster.com/series/Little-Green-Books)
 - [Care2](https://www.care2.com/) (https://www.care2.com/)
 - [Green Choices](https://www.greenchoices.org/) (https://www.greenchoices.org/)
 - Local county government websites
 - [Green Living Ideas](https://greenlivingideas.com/) (https://greenlivingideas.com/)

Books may be adapted using a tool such as Boardmaker for non-readers.

13. Upon completion, analyze the plan to evaluate the successful completion of the objective and overall success of the project. Also, reflect on the project using various reflection activities and evaluate the effectiveness of the project by completing the [Rubric for Assessing the Use of the Maryland’s Seven Best Practices of Service-Learning](http://marylandpublicschools.org/programs/Documents/Service-Learning/rubric_best.pdf) (http://marylandpublicschools.org/programs/Documents/Service-Learning/rubric_best.pdf).

Updated: November 2019, December 2014; Created: July 2009

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[Maryland Public Schools Service-Learning Website](http://www.mdservice-learning.org) (www.mdservice-learning.org)
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