Table of Contents

INTRODUCTION
What is Baltimore CARES?
Why should I do it?
Maryland's Seven Best Practices for Service-Learning
How does it work?

LOGISTICS
Costs
Internships and Alternative Setup

UNITS
1. Community Needs & Assets
2. Service Learning
3. Site Analysis
4. Idea Generation
5. Designing/Planning Your Lot
6. Budget/Soliciting Donations
7. Site Prep
8. Construction
9. Impact Evaluation
10. Sustainability

EXTRAS
Baltimore Resources
Glossary
About this Initiative
Acknowledgements
INTRO
Baltimore CARES (Change Agents Reaching Empowerment through Service-Learning) is a service-learning curriculum that engages high school students over the course of the school term to learn about and make an impact on the challenge of vacant lots.

Service-learning is a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities.

A vacant lot can be used to tell the story of the community, Baltimore City, and even the United States, weaving the social and demographic upheavals and changes affecting all three. It can be used to apply writing, math, science, and other skills learned in the classroom. It can be used to uncover the health and environmental effects of storm water runoff that pollutes the Chesapeake Bay. In other words, a vacant lot can be a rich learning laboratory, and this is the first service-learning curriculum that brings multiple disciplines together to focus students on the specific issue of vacant lots in the city while engaging them in the revitalization of a lot near their school.

The next generation of leaders in Baltimore—the city’s youth—can be change agents in tackling the challenges of vacant lots through service-learning.
Why should I do it?

Maryland has adopted Seven Best Practices for Service-Learning to guide the work of educators around the state. These standards were heavily considered in the conception and creation of this program.

There are five main benefits of the incorporation of this curriculum into your school and classroom:

1. Facing issues of low students engagement and attendance, service-learning provides a link between academic experiences and community issues. In this way, it exposes students to the contexts of their learning and supports an intrinsic motivation to learn, rather than an extrinsic motivation to pass.

2. The community-based and collaborative nature of the curriculum introduces students to a different way of operating that is highly useful in the workforce. Being multidisciplinary, this curriculum helps students bridge the gaps between disciplines and learn how to work with others that have differing strengths, weaknesses, and passions.

3. As a school is, in many ways, a reflection of the community, the culture change that is required within a school community to bolster student achievement needs to be accompanied by support for education in the community. By having students work to improve the community in which they live, the prevalence of the school will have a positive impact (given projects with positive impacts) on the support for the school as a focal point of the community.

4. Schools are valuable to communities in that they gather individuals of a sub-community, the youth, together in a place where they can be easier mobilized for civic agency and social engagement. In this way, schools can provide a powerful resource to communities in addressing the issues they face, ranging from crime, urban blight, and drug and alcohol abuse.

5. Having a set and structured service-learning curriculum helps students to graduate from high school, as the state of Maryland requires that all graduates complete 75 hours of service.
Maryland’s Seven Best Practices for Service-Learning:

1. **Address a recognized need in the community**
   A community need is identified and participants engage in meaningful and personally relevant activities to address those needs. Project goals and community needs will dictate the project’s duration and intensity.

2. **Achieve Curricular Objectives**
   Service-Learning is an intentional instructional strategy used to meet existing course outcomes by providing opportunities for classroom knowledge to be applied and tested in real-life settings.

3. **Reflect throughout the service-learning experience**
   Through a variety of challenging and on-going reflection activities, students engage in deep thinking and analysis about oneself, one’s relationship to society, and how academic knowledge and skills can be applied to help the community.

4. **Develop Student Responsibility**
   Students take leadership and ownership in planning, implementing, and evaluating service-learning experiences with age-appropriate guidance.

5. **Establish community partnerships**
   Service-learning experiences provide opportunities for students to learn about their local or global communities, explore career possibilities, and work with diverse groups of individuals in a collaborative and mutually beneficial way.

6. **Plan ahead for service-learning**
   With community, student, and teacher input, create an action plan and continuously assess the progress toward specific objectives using results for improvement and sustainability of the project.

7. **Equip students with knowledge and skills needed for civic engagement**
   Mutual respect among all participants is established when students fully understand the complexities of the issue, acquire the project specific skills, and explore the importance of civic responsibility.
How does it work?

Baltimore CARES has 10 units. Each unit is complete with resources and lesson plans that will help you guide your students through the lot transformation process.

This guide is not meant to be prescriptive. How and when Baltimore CARES fits into your schedule is up to you. It can be run during the school day, as an after-school club, or a summer program.

1. COMMUNITY NEEDS & ASSETS
Students identify and analyze community needs and assets.
Need Webbing, Community Values, Asset Contribution, Community Surveying

2. SERVICE-LEARNING
Students explore their role and responsibility in the community.
Vacant Lots & Communities, Community Dynamics, Altruism Debate

3. SITE ANALYSIS
Students evaluate the conditions of the site and gather important information to aid them during planning.
Selecting and Adopting a Lot, Lot History, Site Analysis Checklist, Soil Testing, Soil Health and Nutrients,

4. IDEA GENERATION
Students start brainstorming ideas for lot designs. Particular emphasis is placed on aspects of vacant lot revitalizations and physical attributes of the particular lot.

5. DESIGNING/PLANNING YOUR SPACE
Students put together initial plans for the vacant lot, focusing on different elements of the design. By the end of this session, students have a scale drawing of the lot design and an initial list of materials.
Environmental Impact, Drawing to Scale, Planning, Elements of Design, Planning Overview
6. BUDGET & DONATIONS
Students compile a budget for the project and learn about persuasive writing and speaking strategies to solicit donations. Students write letters and make phone calls to potential donors. Budgeting, Project Budget Form, Grants and Grants Writing, Sample Grant Application, Available Grant Opportunities, Soliciting Donations, Anatomy of a Donation Letter

7. SITE PREP
Students make plans for construction day, including: organizing volunteers, distributing skill-specific tasks, contacting outside assistance (ie. help with land-moving, mulch dumping) and obtaining safety equipment & permission slips. Lot Prep, Construction Day Checklist

8. CONSTRUCTION
Students go to the vacant lot for construction. Construction Day

9. IMPACT EVALUATION
Students learn about service and service-learning, and how to evaluate the impact of their vacant lot design. A survey should be created for community members to complete, giving feedback about the project. Student Evaluation, Teacher Questionnaire, Site Report

10. SUSTAINABILITY
Students put together a plan for sustainability, and leave documentation of the project for future participants. Maintenance, Project Portfolio
LOGISTICS
Costs

It’s possible to run this program cost-free, but it’s unlikely. Besides normal costs of any classroom materials (notebooks, pens, etc.), there are also costs you may want to consider if you’re looking for an initial budget for this project:

- Soil testing from the University of Massachusetts
  $10 per sample
- Minimum fee if working with Neighborhood Design Center
  $300
- Baltimore Miss Utility fee
  $27 basic charge, $35 for marked sites
- Printing costs, if you’re doing flyers as a part of your outreach
- Transportation costs for taking students to/from the lot
- Food to incentivize student participation

A typical vacant lot revitalization project will cost somewhere between $800 and $5000. You want to start to consider how the project itself will be funded. The Budgeting/Soliciting Donations unit will walk you and your students through this process. What you need to decide is how involved you would like the students to be in getting funding. As grant deadlines tend to be around the end of December and throughout January, it is suggested that you aim to complete the planning for your vacant lot by the end of the first semester, if you plan on relying on grants as your funding source. If you can find reliable donors, your schedule will be somewhat more flexible.
Internships and Alternative Setup

One challenge of this project is that it often will require students to travel. This, under normal circumstances, may require permission slips for every outing. If the program is run as an internship, students only needed to fill the Student Application for Work-Based Learning Experiences at the beginning of the year.

The Career Technology Education office through Baltimore City Schools can provide the application for students to complete in order to be enrolled in the internship program. In addition, you should put together an accompanying permission form for parents to sign.

An alternative to this would be just creating a year-long field trip form for your students and their parents to sign.
UNITS
1. COMMUNITY NEEDS & ASSETS

“Paying attention to community members’ voices, identifying their strengths and priorities, and finding ways to partner with them - to work with not just for them - has enormous potential for enriching service-learning. It increases the probability that service-learning efforts will not only strengthen the communities they serve, but also help young people recognize all types of communities as unique, vibrant, and resilient, each having its own strengths and resources to offer the world.”

From the National Service-Learning Clearinghouse
1. COMMUNITY NEEDS & ASSETS

The objective of this project is to create something that will benefit the community. Before jumping into solutions, it is important to consider the following questions:

• What does the community actually need?
• What does the community already have?
• Who else is working to better this community?

The lesson plans in this unit will help your students begin to answer those questions.

UNIT WRITING PROMPT

What makes a community a nice place to live? What grade would you give your community? An A? An F? Why? Consider both the assets and needs in your community when making your judgment.

Community Wants & Needs
Need Webbing
Community Values
Asset Contribution
Community Surveying
Unit Prep: Community Wants & Needs

Identifying wants and needs are critical to the success of your project. If you create something the community doesn’t feel it needs, it’s less likely that the community will use or respect the final product. Not only that, but without community buy-in, it’ll be that much harder for you to do your work. You need to figure out what the profile of that community looks like.

There are two big aspects of this: community needs and community assets. Needs are things that community members identify as problems that need something to be remedied. This could be something like housing or obesity. Assets are strengths that a community already has. These can be both concrete and abstract and can range from a strong community association to the neighborhood playground.

So how do you figure out what a community needs? There are many ways to collect information from the community, some of which are listed here:

- Attend community association meetings
- Put together a simple survey to have residents fill out
- Talk with community leaders, including those in churches and other religious organization
- Look through local newspapers to read stories about the community
- Research the history of the neighborhood to see how it has changed and what things it seems to hold onto

One thing to keep in mind is the issue of representation. You always want to consider if the information you get is generalizable or one person’s point of view. In the same vein, it will be important to take note of any local politics that comes up, as it will help you figure out how to communicate with and get feedback from community members in the future.

Other resources:


Lesson Plan: Need Webbing

Materials: string, tape, paper plates, markers, large paper

Summary: Students will explore the needs they see in their community, discuss their causes, and how they relate to each other.

Through this activity, students will:
- Identify needs in their community
- Look at causes for community needs
- Explore connectedness among community needs

Activity:
1. Discuss and create a list of issues students see in the community. Write these down on a large sheet of paper.
2. Break students up into several groups. The number of groups will depend on the particular class.
3. Assign each group one of the discussed issues.
4. Have students start a word map with their issues in the middle. Instruct them to branch out by identifying causes of the issue. For example, obesity could be caused by lack of nutritional food and lack of physical activity.
5. While students are working, discuss how the causes they have identified are community needs. For example, a community dealing with obesity needs more nutritional food and physical activity.

BEST PRACTICES ADDRESSED:
1. Address a recognized need in the community
6. Plan ahead for service-learning

COMMON CORE STATE STANDARDS:

Comprehension and Collaboration (Speaking & Listening)
1. Prepare for and participate effectively in a range of conversations and collaborations building on others’ ideas and expressing their own clearly and persuasively.
6. After webs are completed, have each group share what they found with the class.
7. Discuss common threads among groups. “What are the community needs that appear in more than one web?”
8. Bring the groups together to combine their individual webs into a larger web of community needs using the string and paper plates.
9. Discuss the results with students. “What does this tell us about the needs in our community?”
Lesson Plan: Community Values

Materials: markers, large paper

Summary: Students will explore the concept of community and community assets and will identify the assets within their community.

Through this activity, students will:
• Develop an understanding of what community means to them
• Learn about community assets and the different kinds of assets
• Identify assets in the community

Activity:
1. Discuss with students the meaning of the word “community.” Each student should write his or her own definition.
2. Have the students discuss different communities within which they live. For example, school, neighborhood, church, city, etc.
3. Explain that they will be looking at the community around the school and identifying strengths and resources in the community. These strengths and resources are called assets.
4. Explain the difference between concrete and abstract assets: concrete assets are those physical resources (grocery stores, churches, etc.) that are available, while abstract assets are the strengths of the community (location, strong support for education, etc.)
5. Have the students split up into two groups, one for concrete and one for abstract assets.
6. In each group, they should work together to create a list of assets for their category on a big sheet of paper.
7. After some amount of time, have the groups switch papers and add any assets they think the other group missed.
8. At the end, have each groups share out loud what they wrote.
9. Discuss why certain things were chosen as assets, etc.
10. Have the group work together to identify the top five assets and circle them on their lists.
Lesson Plan: Asset Contributions

Materials: markers, large paper

Summary: Students will look at the assets in the own community, determine how they contribute to community needs, and how their actions affect the needs and each other.

Through this lesson, students will:
• Identify the significance of specific community assets
• Recognize how assets all affect each other
• Recognize how assets all affect different needs
• Begin to think about what role assets can play in addressing needs

Activity:
1. Introduce the activity: The purpose of this activity is to think about the assets in the community and really take a look at what they actually do.
2. Have students split up into five groups.
3. Assign each group a community asset from the list previously compiled during the “Community Values” activity.
4. In each group, have the students write a brief summary of what the asset does for the community.
5. Have each group share with the class what they wrote.
6. Ask each group to identify one change they would make to the organization if they were in charge of it.
7. One by one, have the groups share what change they are making.
8. After each group presents, have the rest of the students write a short few sentences about how those changes might affect the organizations they are representing.
9. On a large sheet of paper, list the community assets represented in the room across the top, and place different community needs along the bottom.
10. In each group, have them write down how their asset contributes (positively or negatively) to each of the needs.
11. Have each group present what they wrote, and draw lines connecting their asset to the different needs they affect.
Lesson Plan: Community Surveying

Materials: markers, large paper

Summary: Students will discuss survey methods and sampling as well as create a survey for their vacant lot project.

Through this activity, students will:
• Discuss the purpose and form of surveys, and conduct a sample survey
• Discuss sampling as an issue
• Develop a survey to use in the vacant lot project

Activity:
1. Group students into small groups and have them discuss and write down the answers to the following questions:
   a. What is the purpose of surveys?
   b. What kinds of questions are on surveys?
   c. Have you taken any surveys? What information were people trying to get out of those surveys?
2. Discuss with the class what surveys are used for and why surveys are important.
   a. Survey - an investigation of the opinions or experience of a group of people, based on a series of questions (Oxford Dictionaries)
   b. Surveys are conducted when you want find a trend among a group of people.
3. In their small groups, students should now come up with a question that they would like to know about their classmates.
   a. These should be answers with limited options (ex. how many students own dogs or cats).
   b. They should write these questions down.
4. Students should then split up and try to target five (or less) other students each to ask the questions on their survey.
5. Have students come back and compile their results on large pieces of paper (pie charts, bar charts, etc.).
6. Students should present their results to each other.
7. Note that students (most likely) did not ask every student in the class. Explain the difference between a survey and a census.
8. Explain how, using the results they got, it might be possible to assume that these results can be expanded to describe the entire class population.
9. Discuss with students: Do the results from these surveys and the small number of students surveyed makes a difference when you're talking about an entire population?
10. As a class, students should now put together a survey to distribute and collect feedback about their vacant lots to the community.
2. SERVICE-LEARNING
2. SERVICE-LEARNING

Service-learning helps students understand the real-world applications of their classroom skills while also drawing together the gap between schools and the community. Understanding service and service-learning can add a lot to the quality of the service experience, helping students to understand why they are doing the work and how it is important. In addition, self-exploration and reflection as a part of this process can increase student engagement and dedication to the completion of a quality project.

UNIT WRITING PROMPT

Have you ever done something that was considered service? (ie. pick up trash, volunteer at a soup kitchen, help out at a nursing home) How did you feel doing it? Do you think it was a valuable experience?

Vacant Lots & Communities
Community Dynamics
Altruism Debate
Lesson Plan: Vacant Lots & Communities

Materials: copies of the “Demonstrated Benefits of Community-Managed Open Space” reading, large paper, markers

Summary: Students will read and learn about the social, environmental, economic, and physical health benefits of community-managed open spaces.

Through this activity, students will:
• Learn about the benefits of vacant lots
• Use these benefits to write persuasively

Activity:
1. Split the students into three groups.
2. Give each group a set of readings (one for social benefits, one for environmental benefits, one for economic benefits)
3. Give the students some time to read over the information. They should underline or highlight the different benefits.
4. After some time, within their groups, they should write on the larger papers a list of the benefits that there are for their category.
5. Have the groups share these with each other. After each benefit, write it on the board, and then ask the students to share why some of these benefits happen.
6. Individually, have students write a paragraph as if they are explaining to someone what the benefits of revitalizing are and are trying to persuade them to financially support it.

*Information from Appendix C of Preserving Community-Managed Open Spaces: Criteria and Process (Baltimore City Office of Sustainability)

BEST PRACTICES ADDRESSED:
1. Address a recognized need in the community
6. Plan ahead for service-learning

COMMON CORE STATE STANDARDS:

Key Ideas And Details (reading)
1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

Text Types And Purposes (writing)
1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
Baltimore’s nearly 12,000 vacant lots – 5 percent of all parcels in the city – reduce property residents’ quality of life and depress property values. Fortunately, throughout the City, residents have taken the initiative to turn vacant lots into community assets: community vegetable gardens, pocket parks, and recreational spaces. While some prove transient, others become neighborhood institutions that provide social, economic, and environmental benefits.

**Social Benefits**

When residents work together to turn a vacant lot into a community garden, pocket park, or recreational space, they do much more than push out blight with beauty – they provide their neighborhood with a wide range of social benefits, from physical and mental health benefits to a reduction in crime.

**Crime Reduction:** Before the Duncan Street Miracle Garden in East Baltimore was founded in the late 1980s, it was the site of dumping and crime such as rape; now it is a beautiful garden where people are willing to work alone. The Memory Garden in Sandtown/Winchester was planted on a corner where there had been a number of shootings; there have been none since. Drug-related debris, once a mainstay of trash pick-ups at the site of Homestead Harvest, has disappeared. In these and other cases, cared-for open spaces appear to reduce crime. A 2008 study on the “broken windows” theory provides documentation of this effect, showing that “changing the nature of a place had a stronger effect on crime than misdemeanor arrests.” The study examined the effects of three interventions in police “hot spot” areas in Lowell, Massachusetts: misdemeanor arrests, social services, and reducing physical disorder. Within the study period, modifying the physical environment so that it is more orderly produced the greatest reduction in police calls.

**Enhanced Physical and Mental Health:** A growing literature documents the physical and mental health benefits of greening for various populations. For example, a review of numerous studies of children and nature suggests that “contact with nature is supportive of healthy child development in several domains – cognitive, social, and emotional.” Other studies report on reduced violence in public housing residents with a view of trees; improved behavior in Alzheimer’s patients in settings with

---

**Demonstrated Benefits of Community-Managed Open Space**

Baltimore's nearly 12,000 vacant lots – 5 percent of all parcels in the city – reduce property residents’ quality of life and depress property values. Fortunately, throughout the City, residents have taken the initiative to turn vacant lots into community assets: community vegetable gardens, pocket parks, and recreational spaces. While some prove transient, others become neighborhood institutions that provide social, economic, and environmental benefits.

**Social Benefits**

When residents work together to turn a vacant lot into a community garden, pocket park, or recreational space, they do much more than push out blight with beauty – they provide their neighborhood with a wide range of social benefits, from physical and mental health benefits to a reduction in crime.

**Crime Reduction:** Before the Duncan Street Miracle Garden in East Baltimore was founded in the late 1980s, it was the site of dumping and crime such as rape; now it is a beautiful garden where people are willing to work alone. The Memory Garden in Sandtown/Winchester was planted on a corner where there had been a number of shootings; there have been none since. Drug-related debris, once a mainstay of trash pick-ups at the site of Homestead Harvest, has disappeared. In these and other cases, cared-for open spaces appear to reduce crime. A 2008 study on the “broken windows” theory provides documentation of this effect, showing that “changing the nature of a place had a stronger effect on crime than misdemeanor arrests.” The study examined the effects of three interventions in police “hot spot” areas in Lowell, Massachusetts: misdemeanor arrests, social services, and reducing physical disorder. Within the study period, modifying the physical environment so that it is more orderly produced the greatest reduction in police calls.

**Enhanced Physical and Mental Health:** A growing literature documents the physical and mental health benefits of greening for various populations. For example, a review of numerous studies of children and nature suggests that “contact with nature is supportive of healthy child development in several domains – cognitive, social, and emotional.” Other studies report on reduced violence in public housing residents with a view of trees; improved behavior in Alzheimer’s patients in settings with
gardens; and improved healing in surgery patients with a view of greenery instead of a view of a brick wall. As one social scientist sums it up, “the complete range of findings....point in the same direction, which is that nature is a key component of a healthy human habitat.”

A 2007 study notes that “there is increasing evidence that residents of urban neighborhoods with poor living conditions and few environmental amenities for restoration display more symptoms of chronic stress and poor health independent of the individual characteristics of residents. In contrast, according to this and similar studies, natural views and settings provide “psychological restoration.” These results are particularly pertinent in light of a 2008 Johns Hopkins study showing that residents of some of Baltimore’s more violent and impoverished neighborhoods have higher risks of heart attack and stroke.

**Improved Nutrition:** According to a 2007 study by the Job Opportunities Task Force, low-wage Baltimore residents pay up to $704 more in groceries annually than wealthier Baltimoreans. Corner grocery stores, which many poorer residents must depend on, have high prices and little or no fresh produce. Community gardens can help alleviate this disparity. According to a 1999 study by the Ohio State University Extension Service, community gardeners' consumption of produce was about twice the national average (6.3 to 7.5 daily servings compared to 3.4 to 4.3 servings).

**Economic Benefits**
Community-managed open spaces increase property values – most likely because they make neighborhoods more desirable by making them cleaner, greener, and more sociable.

A 2004 study from the Wharton School of Business looked at the effect of vacant lots and maintained greened lots in a neighborhood with depressed property values. It estimated that a house on a block with vacant lots loses 4 to 11 percent of its value ($1,120 to $4,370), depending on the percentage of vacant lots, and that houses near maintained greened lots rose in value by an average of $13,000 (more than 13%).
A New York University study looked at community gardens in New York City. It found that “the opening of a community garden has a statistically significant positive impact on the sales prices of properties within 1000 feet of the garden, and that the impact increases over time. Higher quality gardens have the greatest positive impact,” and “gardens have the greatest impact in the most disadvantaged neighborhoods.” For New York City, this translates to an additional $792,000 in property taxes per garden over 20 years.

A study from the Genesee Institute, the outreach and research arm of the Genesee Land Bank in Michigan, emphasizes that “ecosystem values” – such as shade, habitat and stormwater management – can “help to ensure property values for the long-term.” The study suggests that instead of aiming to receive tax revenue from all lots, cities can increase assessments by increasing neighborhoods’ livability with green space.

Environmental Benefits
Community-managed open spaces help make Baltimore a healthier ecosystem, both by providing habitat for animals such as migratory song birds and by providing “ecosystem services” such as filtering stormwater and helping to balance the “heat island” effect.

Stormwater Management: Open land, particularly spaces that easily soak up rain such as gardens, turn stormwater from a pollutant to a resource. Rain absorbed into the soil is water that is not washing trash and toxic particles into the sewers and Chesapeake Bay.

Air Quality: Green spaces improve air quality because plants absorb carbon dioxide and release oxygen. Trees are particularly helpful, since they are large and also because their leaves remove toxic particles from the air. Vegetable gardens also improve air quality by reducing the pollutant and carbon dioxide emissions produced in feeding the city.

Excess Heat: Roofs and paved surfaces get very hot in the summer, making cities hotter than surrounding areas. Open spaces help balance this effect. That is, our neighborhoods are more livable if they are not entirely paved.
Lesson Plan: Community Dynamics

Materials: markers, large paper, entity cards

Summary: Students will role-play as different entities within the community, and they will learn how to compromise and collaborate with other entities in order to accomplish individual and community goals.

Through this activity, students will:
• Understand the importance of community values in working within a community
• Learn to reconcile and work with different interests of various groups
• Leverage resources to establish partnerships
• Determine implementation issues in community partnerships

Activity:
1. Break students into six groups. Have each group go to a separate area in the room.
2. Give each of the groups a large piece of paper, markers, and a community entity card, but tell them not to look yet. This card will tell them who they are in the community. (NOTE: Feel free to alter the entity cards to match actual businesses and organizations in the community.)
3. Explain the activity: The purpose of this activity is to look at how communities work and to see how community partnerships are made. In order to solve community issues, most of the time, multiple entities are required to effect change. These entities all have different strengths, weaknesses, and interests, and when collaborating within a community, it’s important to be able to work with these differences.
4. Have the students look at their entity cards. The card has the name of their entity, a brief description of their work, current goals, and current challenges it is facing.
5. Within their groups, students should write on the paper (1) who they are, (2) the mission of their entity, and (3) the values of their entity.
6. When they are done, have each group pick a representative to share what they have out loud.
7. Have each group look at the mission and challenges of their entity to figure out what they would like to fix. They should think about the resources they have around them and what other entities in the room they might want to partner with.
8. Have each group select a representative. This representative should go to the other entities that they would like to partner with and talk about what they are looking for, what they have to offer, etc.
9. Have the representatives go back to their groups and report what they found.
10. Introduce changes to the entities’ situations. Give each entity time to discuss within themselves what the changes mean for them and what this means for their partnerships.
11. Have each group select another representative. This representative should go to the entities that they would like to partner with (which may or may not be the same ones) and talk about what they are looking for and what they have to offer based on the new changes.

Steps 12 - 14 are optional
12. Have the representatives stay at their partner groups. Tell the groups that the representatives are members of the partner entities. For example, if the representative from the high school was talking to the church as a potential partner, tell them that the high school representative is also a member of the church.
13. Tell them that there is another organization that is offering grants to organizations that have proposals for community change. These grants range from $500 to $5000. In their groups, they should all come up with a grant idea (brief).
14. These should be presented to the group, and the group will vote on which idea should receive the funds.
15. Students should write a paragraph reflection on this experience.
You are the leadership of the community church.

Located only a block from the local high school, your large church building is a focal point for the community. As the years go on, however, your membership has been steadily decreasing. Those that are left have been there for a long time. Although your membership is dwindling, you have plenty of space for programming. You’re looking to grow your membership.

You are the staff of the parks department.

You’ve been in the community for a while, and your new director would like for you to connect with the community more. You would like to help out, but you have a small staff and most of your time is spent dealing with trash dumping in the neighborhood. You have some land available to donate, but you want to give it out strategically.

You are the faculty and administration of the high school.

You’ve had some rough times in the past because many of your students drop out and don’t graduate. However, you do have a lot of new teachers and staff members that are eager to work on programs to help the students. Space is very limited.

You are the board of directors for the community association.

You’re having problems with membership, and you don’t get many people at your meetings. To jump-start your organization, you’ve decided to work with the community and get more people involved. Your members have an interest in helping youth. You’ve recently been awarded a community action grant to help with your transformation. You can distribute these funds however you’d like.
You are the student government association at the high school.

You have a fairly large membership and lots of students are involved. You've even been able to make relationships with the school administration. Still, many express dissatisfaction and feel that the school is not addressing the needs of the students. As a result, students are starting to blame the student government.

Entity Changes

Faculty and staff of the high school: Congratulations! You’ve gotten funding for more teachers and the construction of a whole new wing for your building. It won't be completed for two years, but you are already making plans.

Community association: Unfortunately, a recent inspection of your meeting space has uncovered a lot of problems. You're working to fix the problem, but it takes up most of your time, and you are not able to commit as many physical hours to community projects as you would like.

Student government association: One of your members was recently on the news and said some negative things about the school staff and administration. It has hurt the image of the school in the community and has created a rift between yourselves and the school administration.

Local recreational center: With heartfelt good-byes, your volunteer coordinator decides to retire. However, they knew this would affect the organization, and brought in grant funds to hire five new staff members.

Community church: In an act of goodwill, the local school system has decided to donate several school buses for you to use. They're in pretty good condition.

Parks department: The governor had decided that he wants you to focus on environmental programs. They will be evaluating you on the basis of how well you tackle environmental issues.

You are the executive team for the local recreational center

With strong youth programs led by effective staff, your center has become a hub for the community. That being said, recent cuts in funding have forced you to lay off staff and cut some programs. While your existing programs remain strong, there are more participants and not enough space. People are beginning to get frustrated.
Lesson Plan: Altruism Debate

Materials: coin

Summary: Students will engage in a debate about whether or not altruism exists.

Through this activity, students will:
• Understand how debate process works
• Critically analyze arguments
• Produce responses to arguments

Activity:
1. Open the activity by having a discussion on altruism. Discuss with students what they think the meaning of altruism is.
2. Present the formal definition of altruism: unselfish regard for or devotion to the welfare of others.
3. Present the debate topic and excerpt from “Is Pure Altruism Possible?” Read the article as a class.
4. Have students break up into two groups: those who believe pure altruism exists and those who do not believe pure altruism exists. Students can either be split up arbitrarily or by choice.
5. Outline the debate format:
   a. Each group should select three speakers (give them some time to do this). One of these speakers will be presenting the general case, and the others will be for rebuttal, or responding to what the other team says.
   b. The team that goes first will be determined by coin flip
   c. Each team should take time to write their initial argument.
   d. Then they will present these arguments to each other.
   e. While they’re speaking, students should be actively listening and taking notes.
   f. Depending on debate experience, students should be given one minute to compose a rebuttal argument.
   g. They will present these rebuttals, in the same order (different speaker)
   h. While they’re speaking, students should be actively listening and taking notes.
   i. Depending on debate experience, students should be given one minute to compose a rebuttal argument to the rebuttals just read.
j. They will present these rebuttals, in the same order (different speaker)
k. While they're speaking, students should be actively listening and taking notes.
l. Students should now be given extended time (five minutes) to put together a closing argument.
m. They will present these statements. The person to present this should be chosen by the groups.

6. Have the group set ground rules for the debate.
7. Run the debate:
   • For the initial argument, they should first all come up with a list of talking points that they would like to cover, and then they should turn this into a speech by ordering these points and tying them together. They should come up with a half to one page long argument for their side of the debate.
   • While listening, students should write their comments and pass them to the next speaker. If there is time given for preparation, they should take these talking points and turn them into their rebuttals.

8. Have students vote on which group won the debate.
9. Discuss with students how the debate went: The point was not to say that one viewpoint is better than the other. What’s important to recognize is that whether or not pure altruism exists, a lot of good work is done by people who are acting to help others.
Who could doubt the existence of altruism? True, news stories of malice and greed abound. But all around us we see evidence of human beings sacrificing themselves and doing good for others. Remember Wesley Autrey? On Jan. 2, 2007, Mr. Autrey jumped down onto the tracks of a New York City subway platform as a train was approaching to save a man who had suffered a seizure and fallen. A few months later the Virginia Tech professor Liviu Librescu blocked the door to his classroom so his students could escape the bullets of Seung-Hui Cho, who was on a rampage that would leave 32 students and faculty members dead. In so doing, Mr. Librescu gave his life.

Still, doubting altruism is easy, even when it seems at first glance to be apparent. It's undeniable that people sometimes act in a way that benefits others, but it may seem that they always get something in return — at the very least, the satisfaction of having their desire to help fulfilled. Students in introductory philosophy courses torture their professors with this reasoning. And its logic can seem inexorable.

Contemporary discussions of altruism quickly turn to evolutionary explanations. Reciprocal altruism and kin selection are the two main theories. According to reciprocal altruism, evolution favors organisms that sacrifice their good for others in order to gain a favor in return. Kin selection — the famous “selfish gene” theory popularized by Richard Dawkins — says that an individual who behaves altruistically towards others who share its genes will tend to reproduce those genes. Organisms may be altruistic; genes are selfish. The feeling that loving your children more than yourself is hard-wired lends plausibility to the theory of kin selection...

Biological altruism explains how unselfish behavior might have evolved but, as Frans de Waal suggested in his column in The Stone on Sunday, it implies nothing about the motives or intentions of the agent: after all, birds and bats and bees can act altruistically. This fact helps to explain why, despite these evolutionary theories, the view that people never intentionally act to benefit others except to obtain some good for themselves still possesses a powerful lure over our thinking.

The lure of this view — egoism — has two sources, one psychological, the other logical. Consider first the psychological. One reason people deny that altruism exists is that, looking inward, they doubt the purity of their own motives. We know that even when we appear to act unselfishly, other reasons for our behavior often rear their heads: the prospect of a future favor, the boost to reputation, or simply the good feeling that comes from appearing to act unselfishly. As Kant and Freud observed, people’s true motives may be hidden, even (or perhaps especially) from themselves...

The logical lure of egoism is different: the view seems impossible to disprove. No matter how altruistic a person appears to be, it’s possible to conceive of her motive in egoistic terms. On this way of looking at it, the guilt Mr. Autrey would have suffered had he ignored the man on the tracks made risking his life worth the gamble. The doctor who gives up a comfortable life to care for AIDS patients in a remote place does what she wants to do, and therefore gets satisfaction from what only appears to be self-sacrifice. So, it seems, altruism is simply self-interest of a subtle kind.
3. SITE ANALYSIS
Site analysis is an essential part of the design process. It gives you an idea of existing resources and challenges, providing you inspiration and realistic limitations for the design process.

Spend some time researching the history of the lot and the area to get a good idea of the current use of the site. Perhaps there is a bed of concrete underneath the soil from a previous structure that you should be aware of. Perhaps local children currently use the lot to play football. You want to be aware of these things before you attempt to change anything.

3. SITE ANALYSIS

UNIT WRITING PROMPT

After visiting the site and analyzing its characteristics, describe the lot. Use descriptive works to make it visual. How do you feel when you are in the lot? What would you like to change about the lot through this project?

Selecting and Adopting a Lot
Lot History KWL
Site Analysis Checklist
Soil Testing
Soil Health and Nutrients
Selecting and Adopting a Lot

Resources:

For a list of adoptable city owned lots: static.baltimorehousing.org/pdf/adopt_properties.pdf

For the adopt-a-lot form: baltimorehousing.org/vtov_adopt

Community Law Center
410-336-0922
communitylaw.org

Baltimore Green Space
baltimoregreenspace.org

Selecting a Lot

Selecting a lot should involve a lot of factors, including:
- Where communities see the most need
- Which are most accessible by students
- The safety of the surrounding area

As such, it might be worth it to adopt several lots and have the students help choose which lot you use.

Adopting a Lot

In order to revitalize a vacant lot, you will first have to locate and adopt a lot from Baltimore Housing. Through the work of the Power in Dirt initiative, the process to adopt vacant lots has become easier. Also, it’s free!

Note that you are adopting the lot, not purchasing it. The following information is from the Community-Managed Open Spaces Brochure, created via Power in Dirt:
- Adopted lots are typically on permeable surfaces. Applications submitted for lots with impervious surfaces like concrete will be reviewed on a case by case basis.
- Lots are the responsibility of the licensee for the time specified in the license agreement. Renewal is possible but not guaranteed.
- If the licensee has any legal concerns, it is encouraged that the licensee seek advice from the Community Law Center.
- If your community managed open space has been in existence for a minimum of five years, it may be eligible for permanent preservation by transfer to a land trust, such as Baltimore Green Space.

The benefits of being part of a land trust are:
- It is owned and protected by the land trust, not the city, and therefore cannot be sold for development
- The land trust carries insurance for the properties it owns that protects the trust, the land, and the stewards

Once approved, a license agreement will be sent to you that you must sign and return.
Lesson Plan: Lot History

Materials: KWL worksheets, chart paper, markers

Summary: Students will explore the history of a vacant space and will use the results to inform the lot revitalization.

Through this activity, students will:
• Reflect on current knowledge about the lot
• Examine how current non-physical attributes of the lot affect design
• Gather information about these attributes from the neighborhood

Activity:
1. Give students the KWL (Know, Want to Know, Learned) worksheet
2. In the “Know” section, have students write what they know about the lot.
3. Have students share and then put all of the responses together on one sheet.
4. Discuss with students the different things they should know about a lot’s history and current usage. Some examples are:
   a. Current water sources
   b. If there was a building there before (and this, probably buried concrete)
   c. If it is currently used for any recreational activities
   d. If people currently drive through the lot
   e. How dirty the lot is and how often trash is dumped there
5. Ask “Why is knowing these things important to lot revitalization?”
6. With this in mind, have students fill out the “Want to Know” section.
7. Organize outreach opportunities to get this information:
   a. Talk to the local community associations and churches
   b. Invite community members to come speak to students
   d. Have students go out and do door-knocking
8. Afterwards, have students reflect on what they’ve learned, and put this information in the “Learned” section of the KWL.
9. Ask students: “What did we learn that we should keep in mind during our design process?”
<table>
<thead>
<tr>
<th>Learned</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Want to Know</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Know</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
The House and Other Structures
☐ Is there a house or other structures adjacent to the lot?
☐ Are any structures scheduled for replacement, removal, or major renovation?
☐ Do the locations of the structures create special conditions for plant growth?

Natural Features
☐ Has a count been done of existing plant species?
☐ Do some of the plants require removal?
☐ Is the lawn acceptable in its present condition?
☐ Has a soil test been done and if so, have the results been analyzed?
☐ Is there any evidence of poor or excessive drainage?
☐ Are there any apparent problem areas?
☐ If the site is sloped, does it appear problematic for human use?
☐ Does the surface water clear the site readily?
☐ Are there strong winds that must be taken into account?
☐ Is there any water on the site?

Other Site Features
☐ Are there utility lines above or below the property?
☐ Are there any light sources around the property?
☐ Is there presently an irrigation system?
☐ Are there existing paved areas?

Off-Site Features
☐ Are there views from the lot that should incorporated into the design?
☐ Are there any views that should be screened or minimized by the design?
☐ Is there a need for privacy?
☐ Where does trash collection occur?
☐ Are there any features nearby that should be safeguarded against?
Soil Testing
Adopted from Parks and People’s Guide to Greening Neighborhoods

Soil Testing - pH

Plants and trees require certain soil conditions for healthy growth. Soil pH is a measurement of acidity or alkalinity, and plants grow poorly - even die - in extremes of either condition. It is important, therefore, to know the pH of the soil you will be planting in, and depending on your findings, you may need to add ingredients to balance the pH for growing plants and trees.

You can buy soil test kits at most home improvement centers, which show you the soil’s pH, salt content, and nutrient levels (calcium, magnesium, phosphorus and potassium). These results will allow you to make decisions on what soil amendments and fertilizers you may need for the health of your garden plants. Make sure you follow the directions carefully. Home soil test kits are often unreliable, so it may be a better investment to have your soil samples sent away.

A recommended testing laboratory is the Soil and Plant Tissue Testing Laboratory at the University of Massachusetts, Amherst. (http://www.umass.edu/soiltest/) For garden areas, dig down 6-8”, getting a soil profile of that depth in 10 different areas. For grass areas, collect soil samples to a depth of just 2-3 inches, also in 10 different areas. One at a time, mix each of 10 the soil samples in a clean bucket and let air dry. Place about a cup or so of each sample in a separate sealable plastic bag and send to the University. Make sure you fill out the information form they provide and mail it with your sample. In about a month, you will receive a soil analysis with recommendations on applying fertilizers or soil amendments.

Soil Testing - Lead

Lead in garden soil can be a health risk if you are growing vegetables or fruits that will be eaten. If contamination is present, the construction coordinator may need to plan for removing and replacing this soil to get the site ready, or at least adding lime or organic matter to discourage vegetable plants from accumulating lead in its leaves.

Lead does not wash out of the soil; contamination is long-term. At very low levels, (15-40 ppm) no detrimental health effects have been noted. However, lead poisoning - when lead gets in the blood stream - poses a substantial health risk, especially to children under the age of 6 and pregnant women. Lead test kits can be purchased at most home improvement centers. Take soil samples from several areas to determine the location of the contamination. The greatest concentration is in the top 1-2 inches of soil. Children’s play areas or vegetable gardens should be sampled separately.

If tests show there is lead in the soil, and to reduce lead uptake by plants, lime the soil to a pH of 6.5 to 7.0. Add organic matter such as compost, leaf mold, or grass clippings to the gardening site. Add phosphorus to the soil as recommended by a soil test. However, if the soil lead level is over 5000 ppm total lead, the garden soil should be removed and replaced with clean topsoil.
Lesson Plan:
Soil Health and Nutrients

Materials: Soil Test Results

Summary: Students will learn about and discuss the different elements of soil fertility and productivity and apply this knowledge to existing knowledge about their own vacant lot.

Through this activity, students will:
• Learn different factors affecting plant growth
• Define what makes a particular element “essential”
• Examine their own vacant lot in the context of this new information

Activity:
1. In groups, have students discuss and write down different factors that they can think of that affect plant growth.
2. Have the groups share. Make sure to discuss the following factors:
   a. Water supply– amount and distribution
   b. Radiant energy– quality, intensity, and duration of sunlight
   c. Air temperature
   d. Soil temperature– cool soil temperatures often limit plant growth by slowing root growth and the recycling of plant nutrients through the decomposition of soil organic matter
   e. Composition of the atmosphere– such as elevated CO2 concentrations- some plants, called C3 plants, produce higher yields with elevated CO2 concentrations while others, called C4 plants, do not benefit.
   f. Composition of the air in the soil
   g. Competition– from weeks, tress, other grasses or plants
   h. Pests– presence and absence
   i. Plant genotypes or varieties
   j. Soil fertility– the status of a soil with respect to the ability of a soil to supply elements essential for plant growth without a toxic concentration of any element. All productive soils are fertile for the crops, plants, trees being grown, but a fertile soil may not be productive
3. Ask students: “What does it means for something to be an “essential” element in plant nutrition?”
4. Share the definition proposed by Arnon and Stout in 1939:
   a. A given plant must be unable to complete its life cycle in the absence of the mineral element (life cycle =
b. The function of the element must not be replaceable by another mineral element
c. The element must be directly involved in plant metabolism or a component of an essential plant constituent

5. Share with students the 17 essential elements for plants: Carbon (C), Hydrogen (H), Oxygen (O), Nitrogen (N), Phosphorous (P), Potassium (K), Sulfur (S), Calcium (Ca), Magnesium (Mg), Iron (Fe), Manganese (Mn), Boron (B), Zinc (Zn), Copper (Cu), Molybdenum (Mo), Chlorine (Cl), and Nickel (Ni)

6. Share your soil test results with the students and discuss what these results mean.

7. Ask follow-up questions to check for understanding:
   a. What are the three main criteria for an element to be considered essential?
   b. What is the difference between fertile and productive soil?
   c. Do you think the soil on your lot is productive? If so, what kinds of plants could go there?
   d. What other factors and aspects of your lot may affect how plants grow there?

Extension Activity:
Have students research different plants and the kinds of soil they need to grow.
Teacher Tip:

You may want to consider organizing a lot tour for your students. You can contact Parks and People or Civic Works to arrange one. This way, students will be able to see successful projects in person, which can be a very powerful push start for their own ideas.
4. IDEA GENERATION

At this stage in the project, allow students to defer judgement and think big. Based on the needs and assets of the community, have them brainstorm ideas for the space. Use debate and consensus to help students identify the best options for the lot and the surrounding neighborhood.

UNIT WRITING PROMPT

How do you come up with good ideas? Where are you when good ideas strike? Some people come up with good ideas in the shower, while others get good ideas when they wake up in the morning. Explain your brainstorming process.

Creating the Vision
Idea Analysis
Idea Brainstorming
Vacant Lot Idea Worksheet
Proposal Presentations
Creating the Vision
Adopted from Parks and People’s Guide to Greening Neighborhoods

When a citizen wants to create or improve a neighborhood open space, the best way to begin is to talk with your neighbors about it. This may happen at a chance meeting at the site, a scheduled, formal meeting, or a simple door-to-door survey. What’s most important is that neighbors communicate, especially with the folks who live near the proposed project sites, each listening carefully to others’ ideas for improving the neighborhood.

We call this phase “Creating the Vision,” when you let loose and imagine what could be possible with a dedicated group of people working together. A brainstorming session might be best done as a walking tour of the neighborhood taking notes and snapping pictures of areas that could be improved. Consider which spaces would be suitable as neighborhood gathering spots and what would be needed to make these areas spaces places for everyone in the neighborhood to enjoy.

What is a Neighborhood Open Space?

A neighborhood open space is just that – a space where anyone in the neighborhood can go, whenever they want, and enjoy just being there. It may be a vegetable garden, a school play yard, a cool stream bank, or simply a shady grove of trees, but it is shared by the neighborhood. It may be a space whose function has already been defined, such as a neighborhood park, or it may be a parcel of land that currently has no neighborhood function, such as a vacant lot or a wooded area along a stream.

In general, neighborhood open spaces can be grouped into five categories based on their primary use or function: aesthetic, educational, productive, recreational, and environmentally beneficial. Many open spaces perform more than just one of these functions. But thinking about the space in this way helps you and others to understand and visualize the project. These are described below:

Aesthetic

An aesthetically-focused open space functions primarily as a beautiful natural space to look at as you drive by, or that welcomes you to relax.

- **Neighborhood Sign Bed** – A popular way to create neighborhood identity, giving a sense of community is to create a sign bed, perhaps at or near a common ‘gateway’ to the neighborhood. These may be on the side of a road or in the median strip.
- **Sitting Garden** – Perhaps a path leads you to a resting spot. The path may be bordered with hedges, trees, or flowers. The sitting space could feature benches, planter boxes, or a soft grassy slope for sitting on, perhaps with a shade tree nearby for the hot Mid-Atlantic summer months.
- **Sculpture Garden** – Artistic features offer opportunities for quiet enjoyment. Natural objects, home-made creations, or those by local artisans tie these gardens to the neighborhood.
- **Water Garden** – A fountain, pond, or stream calm with both sights and sounds.
- **Rock Garden** – Rocks and stones add solidity and contrast to plants and trees in an open space. Large stones and boulders can make great sitting spaces, and combine well with hot-sun-loving plants.
- **Vista** – An open space where form, texture, and mass are visually stunning due to a combination of topography and scale.
Educational

Educational open spaces are designed to help people to understand and respect nature, learn skills, or gain a better understanding of history.

• **Garden of the Senses** – These are planted with aromatic species, as well as texturally and visually interesting plants. A few edibles, such as berries or fruit trees, may be included.

• **Children’s Garden** – Scaled for children with lots of color, shapes, secret nooks, and hands-on elements. A pizza garden grows ingredients such as tomatoes and peppers, but can be shaped like a pizza. Gardens of the Senses, Butterfly Gardens, and Productive Gardens have great components for children.

• **Historic or Cultural Garden** – A place to describe an historic or cultural event that took place in the community. Cultural gardens may also be traditional plantings and ornament that enhance an historic structure.

• **Butterfly Garden** – Planted with flowers and shrubs that attract butterflies and insects.

Productive

A productive open space may provide vegetables, flowers, a place for children to play, or people to meet.

• **Herb Garden** – Appeals to the chef in us! Herbs have wonderful scents and tastes, provide interesting colors and flowers, and many are perennial and come back each year. Several herbs like the hot, dry summer, and thrive in poor soil.

• **Cutting Garden** – Grow flowers to cut for fresh bloom displays, drying, or seed production (lavender, sunflowers, roses, and dahlias).

• **Melon Patch** – Cantaloupe, pumpkins, and watermelons can be a lot of fun to grow, but need plenty of room to spread out, and excited children to harvest!

• **Market Garden** – A wide variety of vegetables can be grown easily in our region - corn, tomatoes, cabbage, and peppers, to name but a few. If you have enough space, you can grow your own food, and sell what’s left at local farmer’s markets.

• **Plant and/or Tree Nursery** – A neighborhood tree nursery can be created where native trees are started and grown for later planting throughout the neighborhood. Seedlings, whips, and a variety of plants are nurtured until strong enough to be planted elsewhere.
Recreational

A recreational open space is tailored to a group or groups within the neighborhood, usually for activity and amusement.

- **Picnic/Barbecue Area** – Space for a group or groups from the neighborhood to have a cookout. Picnic tables, built-in barbeque pits, or easily-maintained spaces for hi-bachis and portable grills are features of these spaces that bring the neighborhood together for planned events, or spur-of-the-moment outdoor grilling.
- **Playground** – Soft play surface, such as sand or mulch with climbing features, swings, or other pre-manufactured equipment. Make sure features meet safety regulations.
- **Hike and Bike Trail** – Hike and bike trails are becoming very popular in communities, because of the health benefits to young and old alike. Even urban neighborhoods are frequently close to municipal or private undeveloped land, which provide natural spaces to enjoy. It’s important to work closely with property owners before tackling a project like this, but hike and bike trails make an excellent space for the whole neighborhood – even many neighborhoods – to enjoy.
- **Dog Parks** – In developed areas, having an open space for pets to enjoy can be a great benefit. Challenges are, of course, pet waste and sharing the space, but these open spaces can improve the quality of life for both pets and their owners!
- **Organized Sports** – Having a space for organized sports brings neighbors together. It may be a wide-open field for football, tag, or soccer; or a formal layout for baseball, track, horseshoes, or bocce ball.

Environmentally Beneficial

An environmentally beneficial open space may protect a sensitive wetland, stream, or forest located within a neighborhood. It may also provide habitat for a variety of wildlife.

- **Riparian Buffer** – These are vegetative areas, not less than 100-feet wide, next to a stream, river or creek. The natural “buffer” filters contaminants, nutrients, and soil erosion from stormwater runoff, which eventually flows into the Chesapeake Bay.
- **Rain Garden** – A rain garden may occur naturally, or by design through grading the soil to capture water and slow down runoff and erosion.
- **Woodland** – A stand of trees in an area large enough to sustain a healthy diversity of plant and animal life.
- **Meadow** – A place of much activity due to a range of wildlife and plant variety.
- **Wetland** – A diversity of native species planted to encourage fish, insects, birds and small animals that tolerate marshy areas.

As you can see, there are dozens of uses for neighborhood open spaces. What we have described is only a sample of the many types and functions of open spaces, and matching your space to your neighborhood is what “Creating The Vision” is all about.
Lesson Plan: Idea Analysis

Materials: copies of lot proposals, large paper, markers and other art supplies

Summary: Students will look at design proposals to revitalize vacant lots in Seattle and critique them for efficiency, feasibility, and impact.

Through this activity, students will:
• Get a sense of the range of things that can be done with vacant lots
• Learn the level of critique that goes into analyzing proposals
• Explore the presentation of ideas

Activity:
1. Break the students up into smaller groups (preferable 3-4).
2. Give each group one of the proposals from the following pages.
3. Have each group answer the following questions about the proposal.
   a. What is the basic idea behind the proposal?
   b. How would the proposal help the community?
   c. What are the different materials that are needed for the construction of the proposal?
4. Give each group a sheet of large paper.
5. Each group should put together a presentation to share with all of the other students about their proposal.
6. The groups should go around and share the proposals.
7. Give time after each presentation for questions.
8. At the end, lead the students in a discussion about the proposals. Which ones did they really like? What were the concerns they had about some of them?
9. Have the students vote on a proposal in a mock election with the understanding that this isn’t necessarily the idea that they are going to implement.
10. Students should share what criteria they used when selecting their favorite idea.
Rising-Shining

The proposed installation replaces our normal conceptions of building forms and vacant lots with the strange, the unexpected, and the whimsical. It suggests the buildings that should (or could) be there, but in a strange and unusual way.

It floats. It wiggles. It bops in the wind. By day it’s perceived as a playful yet mysterious intervention, and by night glows with a suggestive presence.

While playful and fanciful the installation is also practical and achievable. It uses simple materials, existing technology, and modular components to create an adaptable and portable system.

Helium balloons fill nets to create floating cubes. Anchored to the ground, these cubes are connected in various ways to create abstract or building-like volumes. Within each cube, battery-powered LEDs provide low-temperature, low-energy, high-output light, which could be controlled remotely or automatically with daylight sensors. The modular cube allows for easy transport and adaptability.

The installation either travels to various sites across the city or is rearranged several times on one site. It lasts for a single evening, a week, or until the balloons deflate. This economical and flexible system responds to the unique scale, conditions, safety considerations, and use patterns of each site.
Neighborhood Watch Theater Co.

The Project
We propose utilizing Property as a multi-purpose public event space. The approximate dimensions of the space are 74’ along S. Washington and 60’ along Occidental Ave. This venue would be used to host a variety of programming including but not limited to; concerts, films, art exhibitions, performances and speakers.

The Vision
Our proposed usage provides stability to an economically challenged urban landscape through free entertainment and promotional services at the heart of Pioneer Square. We will promote events in the space through a combination of offline and online community networking strategies.

Events in the space will be promoted through partnerships with local businesses, community groups, and non-profit organizations active in Pioneer Square. Online, we will use Twitter, Facebook, and other social media tools to keep the Pioneer Square community up to speed on event scheduling. Our website will also offer a forum for dialog on alternative uses for the space and event related feedback.

Funding for project related costs will be covered through event sponsorship, project sponsorship, and charitable donations.

Figure 1: First Person Perspective
Surface Lot
Container Garden

Holding Patterns - Seattle
Surface Lot Container Gardens

Rationale

There are many vacant and unsightly lots within the City of Seattle. These lots, when left undeveloped, create eyesores in any otherwise beautiful city. While developers and owners wait for the right time to sell or build on these lots, the land simply goes to waste. I believe the best solution to this problem is to install container gardens on these sites, allowing the community to utilize these otherwise barren spaces.

Garden plots are in high demand in Seattle. Currently, there are not enough public gardens to handle these demands. As of the end of 2009 there were 1900 people on the waiting list to rent garden plots within Seattle, with wait times of up to 3 years for some garden sites within Seattle.* Of those residents on the waiting list, 77% have no gardening space available where they live.*
Community Rink

Out of Seattle Street Hockey’s (SSH) need to play their game in a dedicated space comes a greater desire to introduce street hockey and rink-related activities to the City of Seattle. The Community Rink is an intimate and accessible approach to meeting that goal.

Rink-Related Activities in Seattle
The City of Seattle provides many opportunities to pursue mainstream sports such as tennis, soccer, baseball, and basketball. Seattle and other local municipalities have even begun investing in the creation of skate parks, a relatively new interest. Sadly, rink-related sports are still unsupported, as are the rinks that are needed to play in.

A Community Rink could support and encourage several healthy and fun rink-related sports and activities. These activities can also be enjoyed outdoors and in most types of weather:

- **Street Hockey (or Ball Hockey)** - played on sneakers with a plastic orange ball, one only need to bring a stick to play
- **Roller Hockey** - street hockey on roller skates - SSH receives many inquiries about roller hockey, but only Bellevue has the closest facilities
- **Bike Polo** - polo on bikes - Seattle Bike Polo ([www.seattlebikepolo.com](http://www.seattlebikepolo.com)) has been around for several years and has 70+ members
- **Roller Skating** - a flat, open, and safe area for kids to skate
- **Dodgeball** - as an alternative to playing inside a gymnasium
Sail Away

This design will bring the beauty of sails on the water into the pits of Seattle. With spinnaker sails strung across the pits with aircraft cables and adorned with strings of lights - this design can be easily assembled and disassembled with minimal labor, cost, or permanent alteration to the site.

The sails will move gracefully in the wind. A passerby will hear the soft sounds of the fabric billowing in the wind. In the evening hours, the strings of light will enliven the space and cast shadows on the sails drawing visual intrigue.
Lake City
Activated Landscape

The empty car lot on Lake City Way presents a great space to create a community venue. By conceptualizing the ground plane as a surface that can be activated through the introduction of elements that support and inspire people to use them. The generic nature of the three typologies used: the two foot high bench, the three foot mound, and the four foot tall curved sided mesa; allows for multiple uses for each element. Radiating each element out on the site introduces adjacencies and collisions of form that generate spatial implications which begin to hint at possible activities. Benches placed under the film screen serve as seats for moviegoers. Mounds and mesas create a topographical surface perfect for experimental skateboarders. The aisles and voids present their own possibilities; the largest of which can be used for dancing.

By overlaying these three arrays of elements reenergizes the site; from vacant lot to situational playscape. The patterns generated by this layering of systems creates a complexity that allows for many uses without strictly defining the nature of the space. This freedom of purpose invites the community to make the space their own by filling it with their own activities. The site will serve as background, infrastructure and gentle instigator of community building.
Shapes of Change

By providing a simple intervention of sculptural plywood shapes that can serve as seating, tables, and stage, this now empty lot can again serve the community. The plywood shapes would be easy to assemble, and disassemble when needed. This project is inspired by People’s Parking Lot [http://peoplesparkinglot.blogspot.com] and other local efforts to activate and use this vacant site in the vital Pike/Pine neighborhood.

These simple elements support and encourage emerging community events on the site: street fair; swap meet; food vending; crafts vending; concerts; outdoor cinema; public gatherings; etc.

The mobile furniture encourages community gathering and a sense of social ownership within the neighborhood. By working together, the community can arrange their own space to support events activities or socializing.
Lesson Plan:
Idea Brainstorming

Materials: Vacant Lot Worksheets

Summary: Students will be coming up with the initial ideas for their vacant lots, and then they will be breaking up into groups (which they will be in for the next couple of months) to put together the plans to implement these ideas. At the end of the whole process, one of the proposals will be chosen to be implemented.

Through this activity, students will:
• Begin to explore different solutions for community needs and how vacant lots can contribute.

Activity:
1. Have students call out the ideas as you write them on the board/on a large piece of paper. Laughing is okay, but students should not be criticizing any of the ideas that come up. In general, feedback should be kept to a minimum unless a proposed idea is not school-appropriate. The point is for students to think creatively about what can happen, not worrying yet about the restrictions.
2. Have students split into groups based on their interests.
   a. If some students are not interested in any of the ideas, have them come up with their own idea.
   b. If all students are interested in the same idea, split them into groups anyway as the different groups will most likely come up with different proposals in the end.
3. Have students spend the rest of the time discussing the ideas within their group and completing the attached worksheet.

BEST PRACTICES ADDRESSED:
1. Address a recognized need in the community
3. Reflect throughout the service-learning experience
6. Plan ahead for service-learning

COMMON CORE STATE STANDARDS:
Comprehension and Collaboration (Speaking & Listening)
1. Prepare for and participate effectively in a range of conversations and collaborations building on others’ ideas and expressing their own clearly and persuasively.
Vacant Lot Idea Worksheet

When thinking about fixing up a vacant lot, there are a lot of things to consider. Here are a few:

- What do you want to be on the lot?
  - Will it be a place people use?
  - Will it be a place that helps the environment?
  - Will it be something that makes the neighborhood look better?
  - Will it be all of these?
- What kinds of things will you need to build the lot? Where can you get those things, and how much do they cost?
- How can your design be built?
- Who in the community might be able to help with your design?
- Will someone have to maintain the space after this year? If so, what are your ideas for making that happen?

You don’t need to have all of the answers to these just yet. Below is what you should have by the end of today:

**In one or two sentences, what is your plan for the vacant lot?**

**What kinds of things will you have to get to make the design happen?**

**Who in the community might be able to help you, and who do you think you should talk to?**

**What are the different things you will have to research or look up before your group meets again, and who in your group is going to take care of them?**
Lesson Plan: Proposal Presentations

Materials: Proposal Presentations Evaluations

Summary: Students will present their revitalization proposals and vote on one.

Through this activity, students will:
- Use the skills and knowledge they have acquired thus far to critique and analyze their own revitalization proposals
- Narrow down and select the revitalization proposal that they will implement

Activity:
1. Have students get up group by group and present their proposals to the group.
2. Give time after each presentation to have students ask questions.
3. Have students use the Proposal Presentations Evaluation sheet to critique their colleagues’ presentations.

*Note: This activity can be used as a comprehensive demonstration of student learning thus far.*
Proposal Presentations Evaluation

Student Group: ____________________________

How does this group’s proposal reflect the needs of the community? If it doesn’t, why not?

What assumptions, if any, does the group make?

How does this group’s proposal address environmental needs? If it doesn’t, why not?

Does this group’s proposal seem cost-effective? Why or why not?

What do you really like about this proposal?

What concerns do you have about this proposal?

What are your suggestions for the group? What could make their proposal better?
Teacher Tip:

As the students develop their proposals, it is important to maintain a balance between completely directing their designs and leaving them to do whatever they want. The more the students own this process, the more likely they will be to commit to seeing it through. There are many grant opportunities that look favorably upon student-run ideas.

During this period, it might be useful to bring in local community experts to speak about things like greening or carpentry in order to guide the students’ work.
5. DESIGNING/PLANNING YOUR SPACE

This unit will guide students through the process of making their ideas concrete and designing and planning their space. At this stage of the project, pro-bono help from a landscape architect might be needed. See the appendix for information on the Neighborhood Design Center.

UNIT WRITING PROMPT

How is math important when designing and planning spaces in real life? Give examples of instances where math has been need in this project.

Environmental Impact
Drawing to Scale
Planning
Elements of Design
Planning Overview
Lesson Plan: Environmental Impact

Materials: Presentation Boards

Summary: Students will discuss and research urban environmental issues and then determine how vacant lots can contribute to these issues.

Through this activity, students will:
• Explore various environmental issues unique to urban areas
• Research urban environmental issues and present the findings

Activity:
1. Split the students into three groups. Assign each of the groups assigned one of the following topics: Urban heat islands, stormwater runoff, or carbon sequestration. All of these are environmental issues unique to urban environments.
2. Have students research and write response paragraphs/papers answering the following questions:
   a. What is this issue?
   b. What causes this issue?
   c. How does this issue affect the environment?
   d. How does this issue affect people and neighborhoods?
   e. How can vacant lots contribute to this issue?
3. Afterwards, have groups meet and put together group presentations about each topic to present to the class.
Lesson Plan: Drawing to Scale

Materials: Dry erase markers, sheet protectors, aerial view of site, graph paper

Summary: Students will begin to translate their vacant lot ideas into a site layout.

Through this activity, students will:
- Learn about drawing to scale

Activity:
1. Have students continue to work in the same group that they brainstormed with. Provide each group with a screenshot from Google maps of your vacant lot. (See below) Make sure you include the scale identification.
2. Have students place the lot map in a sheet protector and begin to draw their site layout using dry erase markers.
3. Explain the concept of scale. Scale is a system of measurement that allows you to reduce the size of what you are drawing so that it is represented as a fraction of the actual size.
4. Provide students with the general measurements of items like benches, picnic tables, and trees if needed.
5. Remind students to use the scale on the map to make sure the drawings of items are as accurate as possible.
6. When students are ready, have them translate their drawings to graph paper.

BEST PRACTICE ADDRESSED:
6. Plan ahead for service-learning

COMMON CORE STATE STANDARDS:

Number and Quantity (Mathematics)
Reason quantitatively and use units to solve problems.
1. Choose and interpret the scale and origin in graphs and data displays
2. Define appropriate quantities for the purposes of descriptive modeling
3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities
Practicing Scale Drawing

Mrs. Lewis wants to have her dining room floor covered with wood flooring that comes in squares 1 foot wide. A 12-pack of the squares sells for $38.40 and single squares can be purchased for $3.70 each. What will it cost, in dollars, to buy just enough squares to cover her dining room floor?

A landscape architect planned a new garden using graph paper. The garden includes a circular fish pond. The fish pond is to be surrounded by a low brick wall. To the nearest foot, what is the best approximation of the circumference of the fish pond?
Every project site has its own personality which has to be understood and respected if you want the project to be a success. To properly plan the new project, you must know as much about the site as possible! It’s important to visit the site - spend some time there - to get a good idea of its conditions. Take pictures, too! Being able to compare your notes with photographs of the actual site will help you remember what things are really like there as you develop the design.

Having an exact map of the site is critical for designer to do a good job in drawing plans for the final project. The following lists information to gather about the project site, and how to go about getting it.

**Dimensions**

To properly plan a design, you need to know exactly how much space there is and exactly where things are located. Use a long measuring tape, and have a friend with you to make it easier. Make sure you write everything down! The figure on the right shows how a site map might look when it’s finished. It captures distances from set objects, such as the building or the sidewalk.

The importance of careful measurement, and making sure you note everything cannot be stressed enough. The final design will completely depend on this map. If the map is not exact, the design will not be exact, and this can affect the entire project, from the budget, to the schedule, to the volunteers. Be very thorough when you make your site map!

**Grade**

Is the site perfectly flat? If not, indicate where hills or dips are. To best capture this aspect of the site, use a camera, and indicate on the drawing where the hills or dips are located, as well as about how deep or high, and wide they are.

The grade of the site is very important for proper drainage when it rains. Standing puddles, or severe erosion will cause problems for structure stability and plant health.

**Underground Utilities**

Unfortunately, there may be hidden obstacles under the ground that could affect the project construction. The designer must find out where buried pipes and cables are located, as these can affect where you plant certain things. Utility companies and locating services such as Miss Utility must be contacted at the very beginning of the concept planning phase. The utility companies will send a representative to the site, and usually mark with spray paint, where underground pipes or cables are located.

If you can’t meet the utility companies’ representatives the day they come out, visit the site shortly thereafter, and make sure you see all of the marks, and note them on the site map. Sometimes, the marks are painted on grass or weeds, and may be cut off during cleanup. These marks should be replaced with a more permanent marking so that on construction day, you know exactly where things are.
**Water**

All plants, trees, and grass need water when they are planted! Make sure that there is a spigot nearby, and if not, you will need to find a source of water. If the only way to get water to the site is to carry it in buckets, be prepared not only to have strong volunteers on the day of construction, but plan to have to bucket water to new plants for possibly several months after planting, until they’re established.

**Sun**

How much sun a site gets, and at what time of the day, is very important for deciding what types of plants to include in the new open space. For instance, impatiens are beautiful flowers, and can tolerate direct sun in the morning, but will wilt and die if exposed to full afternoon sun.

By locating north, you can easily figure out where the sun travels during the day (rising in the east and setting in the west), and how it will affect the site. The changing seasons also witness differences in sun exposure, with the sun being nearly directly overhead of our region in the summer, but far to the south during the winter. The best way to understand how the sun affects your site is to visit the site in the early morning, and again later in the afternoon, at different times of the year.

**Soil Test**

Soil pH and contamination need to be identified at the very beginning of the concept development phase by the Construction Coordinator, and the findings are very important for the design. If soil amendments are required, the designer must consider these from the get-go. Work with the construction coordinator to have these tests conducted. Greater detail on performing tests is provided in the Planning Your Open Space section under the Construction Coordinator.

Addressing soil pH can be as simple as adding lime or organic matter to the area. Addressing contamination, particularly lead which is a common problem on urban sites, can be a bit more tricky, especially if you want to grow vegetables, or have a space where children come in frequent contact with the soil.

Vegetable plants can store lead in their leafy green tissues, although lead accumulation is lower in fruits. In high-risk lead areas, grow crops such as tomatoes, eggplants, peppers, squash, or melons. Root crops such as carrots, radishes, turnips, onions, and potatoes can accumulate lead and should not be planted in contaminated soils.

In heavily contaminated soils adjacent to a residence, plant trees, shrubs, or perennials, and mulch the area to minimize annual till- ing and cultivation operations. When soil lead level is over 5000 ppm, the soil should be removed and replaced with clean topsoil.
Elements of Design
Adopted from Parks and People’s Guide to Greening Neighborhoods

The following are items most likely to be considered for neighborhood open spaces. There are also numerous books and resources for more information on a particular topic at your local library and on the internet.

Plants/Trees

The variety of plants and trees available in most local nurseries can be mind-boggling! Evergreens, flowering plants, and new hybrid vegetables come in all shapes, sizes and colors. How do you know which types are best for your project and your site?

At the kick-off meeting, the team will decide generally what it wants the site to look like. Then, with the help of the team professional, the Design Coordinator will identify what plants and trees will do best. There is also an enormous amount of information available on plants and trees at the library, on the internet, even at the local home improvement center. What’s most important is that the appropriate plant or tree be selected based on the following ecological principles:

- **Appearance, function** - Flowers or food? Shade? Colors?
- **Size** - How fast will it grow, and how big will it get? Will it outgrow its space in two years and need to be removed, or crowd out neighboring plants, eventually killing them?
- **Hardiness** - Can it survive the winter or urban environments?
- **Native plant use** - What plants grow in this region naturally, and will need less care than others?
- **Water requirements** - Will it need regular watering all summer? Is it being planted in the heat of the summer when it will need lots of regular watering, or during the spring or fall, when less water is required?
- **Sun, soil, and food requirements** - What are the best conditions for growing selected plants? Will it survive on your site?
- **Maintenance requirements** - Will the plant or tree need regular pruning or shearing? Are you including grass which will need regular mowing throughout the spring, summer and fall?

Some or all of these considerations are frequently missed, and the plants or trees do not survive. It is very important to know as much as you can about the plants and trees you want before you put them into the design. We have included a basic plant list in the appendix of this manual, to help you get started in selecting plants and trees that will work for your open space.

Other items to consider when selecting plants and trees include:

- **Budget** - Can the neighborhood afford the plants and trees you are selecting? Will the design have to be constructed in several phases, perhaps part in the spring and part in the fall of the year because of the budget?
- **Donations** - Has a local nursery offered plants or trees at a discount? Do they fit the site conditions, and do they fit with the vision?
- **Special transport** - Will big trees require trucks for pick-up, and strong volunteers to help move and plant them?
Grass

Grass areas can be very inviting in open spaces, but there are certain things to consider when you put them into the design:

• Will the project use seed or sod? Seed is much less expensive, but more difficult to grow. Sod also takes much more labor to install.
• If using sod, where can you get it? Is it of good quality? Will you need sod staples for slopes or hills?
• Who will mow the grass each year?
• Can the grass be cut with just a mower or will you need a weed-whacker to get spots like walls, fences, or picnic tables?

Including grass in a design will affect the budget, construction, and long-term care for the project, so consider it carefully.

Pathways and Sidewalks

Much like selecting plants and trees, you need to know and consider several aspects of the materials available for pathways and sidewalks. Pathways can be made of concrete, blacktop, stepping stones, brick, mulch, or gravel, and several things need to be considered in selecting what’s right for your project.

• Dimensions - How long is the surface? Can there be space in between stepping stones?
• Function - Will the pathway be heavily traveled? How durable does it need to be? Will overuse ruin it?
• Budget - How much do bricks and stones cost? How many will you need? How much mulch or gravel would you need, and how much does it cost?
• Special transport - Bricks, stones, mulch, and gravel are very heavy, and a truck will be required to move any large amount of these materials. Bricks and stepping stones are sold individually or in large cubes, while mulch and gravel can be purchased either in bags or dumped directly onto the back of a truck.
• Special skills - Installing bricks and stepping stones requires some understanding of grading. When improperly installed, brick and stone pathways can become dangerous and wobbly, or crack and break. Rain washout may create channels and erosion, over-exposing the stones, or burying them in silt.
• Time to construct - Building sidewalks and pathways correctly takes time, for subgrading, installing the material, and final grading. This part of the project also needs to be finished before plants can be put in.

Walls, Curbs, and Planter Boxes

Walls and curbs may be needed due to a slope at the site, or to prevent erosion onto walkways. Planter boxes offer an excellent place for growing plants on a site with large amounts of buried debris, or especially poor soil conditions. They also raise the garden area to a height that is more comfortable for working than stooping down.

Building walls, curbs, and planter boxes correctly is critical to the project, and the design must consider exactly how these items are built. It’s all well and good to want or even need these features, but if planned and built incorrectly, the hard labor involved in making them will be wasted, because they will not last.
If your project will include these, pay close attention to how they are built, and plan carefully for this in the design. Walls, curbs, and planter boxes must be sturdy if they are going to last, and special tools, skills and hardware are often needed for their construction. In developing the concept design of these features, consider the following:

- **Dimensions** - You will need to carefully measure for the size of the wall, curb, or planter box in order to know how much material to get, and how much it will cost.
- **Function** - Will they need to hold back lots of dirt? Will curbs be bumped into by cars or bicycles? Will planter boxes have seating on top?
- **Special transport** - Large railroad ties and lumber will need to be brought to the site in a truck, whether delivered or picked up by volunteers. These items tend to be very heavy and awkward, so make sure you have strong volunteers!
- **Paint or stain** - Wooden materials will warp, fade, and splinter outdoors. You will need to use pressure-treated lumber, which may cost more, but does not need to be painted or stained. However, if you decide to apply some sort of paint or stain, it will require re-painting or staining every 3 - 5 years.
- **Special hardware** - Nails, spikes, and reinforcement bar, or “rebar”, are commonly used in constructing walls, curbs, and planters from wood.
- **Special tools** - You will likely need to have hammers, a power drill, a circular or chain saw, and a tamping bar for installing these features. Don’t forget a source for electricity if you need to use a drill!
- **Special skills** - Having a carpenter volunteer for construction will help make this part of the project go smoothly. Again - building walls, curbs, and planter boxes is not rocket science, but these items must be built right to stay durable.
- **Time to construct** - Building walls, curbs, and planter boxes involves not only the actual structure, but also careful grading of the site. Doing all of this right takes time, and this part of the project should be finished before plants and trees are installed.
- **Cost of materials** - Lumber, tools, and hardware can really add up in cost! Check prices at local hardware stores, and do a thumbnail sketch of cost right away to see just how much money you will need.
- **Donations** - Lumber, hardware, and tools are items that may be donated by neighbors or local stores. Consider these carefully to make sure the items fit with the dimensions and overall plan.

**Fences**

Much like walls, curbs, and planter boxes, fences must be built to last. Therefore, it is important to know how to build them correctly, and account for this in your design.

- Will the fence be mostly for decoration, or will it need to keep potential vandals from the site?
- Is the vision formal or more natural?
- What effects do special hardware, tools, and skills; time to construct; cost of materials; and donations have on the design?
- Will grass have to be mowed against or under the fence?
Picnic Tables

Picnic tables make a great feature in an open space, if there’s enough space for one! Check with a home improvement center on different shapes and sizes available, as you will want to make enough room for the table, chairs or benches, and space to walk around them.

- What will the table be set on? Grass? (makes mowing difficult) Mulch? (can mean greater site preparation) Pavement?
- Maintenance - Is the material weatherproof, or will it need to be painted/stained regularly?

Playground Equipment

The very most important feature in researching playground equipment is safety. Whether equipment is pre-manufactured, or built by volunteers, make sure that the safety of the children playing on it is at the top of your research list.

- How is the equipment constructed?
- Are structures stable, or wobbly?
- Can kids get splinters?
- What surface is under the equipment: Mulch? Sand? Grass?

For maintenance of playground equipment, consider the difficulty in mowing grass around the structure, and painting/staining wood surfaces.

Bulk Material

Mulch, topsoil, sand, gravel, and organic material are all sold in bulk, either in large bags, or dumped directly onto the back of a truck. These materials are sold in either cubic yards or tons.

Organic Matter - Soil amendments are also measured in cubic yards, and tons. These materials can improve your soil’s physical structure and effectively raise the nutrient level, thus reducing the need for synthetic fertilizers. Work towards a goal of 20-30% organic matter, 2-3 inches in the top 8 inches of soil.

Material by the Ton - bulk sand, soil, and gravel – are typically measured in tons. One ton of sand, soil, or gravel generally contains 1/2 cubic yard, but this varies depending on how wet the material is – dryer material is lighter, and a ton of dry soil will contain more volume than a ton of wet soil.
Planning Overview

Use this list of questions to help you make sure you have everything covered. If you can answer the following, you should be ready to answer most questions organizations might ask when you’re looking for support or feedback.

1. In one or two sentences, what is your plan for the vacant lot?

2. Where is this vacant lot, and what do you know about it (including history and use)?

3. What do you hope the community you are working with will learn from this project?

4. How will your lot design contribute to the community?

5. How will you be able to tell if your lot is successful?

6. Will your project involve digging? (If so, see project coordinator about calling Miss Utility.)

7. How will this project be integrated into educational and curricular goals?

8. If food will be produced in a garden, how will it be used?
9. What are the maintenance needs of your project?

10. How will the lot be maintained when school isn’t in session?

11. Does your project need water, and how will you get it?

12. Will constructing or maintaining your project require outside help? If so, who and what?

13. What other groups or partners are involved in or affected by the project and how?

14. How are community members involved in the project?

15. What are the different pieces of your design (benches, garden, statues, etc.)?

16. For each of those pieces, what are the materials you need? (Include the following information for each item you need: name of item, reason needed, quantity, cost per item, source, total cost). Include things you think you will have donated.
6. BUDGET/SOLICITING DONATIONS
6. BUDGETING/SOLICITING DONATIONS

No matter how simple the lot transformation, there will be costs involved. This unit involves students in the process of identifying potential project needs (monetary and in-kind), and seeking support from outside individuals and organizations.

UNIT WRITING PROMPT

How is writing professionally and persuasively critical to getting donations for the project? What have you learned through the process of writing a donation letter? How might those skills transfer to other writing you might do?

Budgeting
Project Budget Form
Grants and Grants Writing
Sample Grant Application
Available Grant Opportunities
Soliciting Donations
Anatomy of a Donation Letter
Unit Prep: Costs and Funding

For most schools, this will probably be one of the biggest questions: How will the lot be funded? Can we get everything donated? Will we have to pay for it ourselves?

Fiscal Sponsorship and Donations
The first thing you want to figure out is simple: Where will any funds be deposited? It is possible that you could have your funds held by the school itself. Talk to your school administration about options.

Alternatively, you may want to consider partnering with a local nonprofit organization to do the project, in which case they may be able to hold onto your funds. With that, you have the added benefit of being able to use the organization's 501(c)3 status to offer tax write-offs to those who donate to the project.

There are various organizations that are set up to do just this. The Greater Homewood Community Corporation (http://www.greaterhomewood.org/) has an entity set up to provide fiscal sponsorship and other business services to projects like this.

For in-kind donations, like tools or plants, make sure that you have a place to store them.

Grants
There are many grants available to fund projects like this. In this section is a calendar of these grant deadlines from the 2011-2012 school year. These grants and deadlines are not guaranteed to stay the same, but it should give you some idea of the timeline with which you are working.

Itemized Budgets
After the grant calendar, there is a sample budget form that you can use to organize your budget. Use this to organize your budget, and your grant proposals and donation solicitation should be much easier.
Lesson Plan: Budgeting

Materials: Project Budget worksheet

Summary: Students will develop a preliminary list of needed materials

Through this activity, students will:
• Learn the importance of putting together a concise budget
• Think critically and economically about how to manage funds
• Create a comprehensive list of everything needed for the project

Activity:
1. Ask students: “Why it is important to have a budget, instead of just walking into a store and buying what you think you need?”
   a. Budgeting allows you to purchase items more efficiently without having to go back to the store over and over.
   b. It lets you know what you can actually afford so that you can adjust your design as necessary.
2. In isolated small groups, have the students review their project and make a list of the items they think they will need to make it happen.
3. Using various tools (search online, make phone calls, in-person inquiries), have students spend some time researching the items on their list and choose specific items to purchase.
4. Have students come together and present their lists to each other. What items are the same? What items are different? Discuss the discrepancies in the lists and have students explain their choices.
5. As a group, review the different things the students will have to do in order to construct their project. Go through each step in the construction process and discuss with students what tools will be needed for each step and where you might be able to find these materials.
   a. Note that joining Parks and Peoples’ Community Greening Resource Network (see Resources page) will provide you with access to most normal gardening and greening tools.
   b. Students should also consider things that will required if they will be using volunteers (food, gloves, trash bags, etc.).
6. Altogether, with students, compile one full list of materials that the students agree on.
## PROJECT BUDGET

<table>
<thead>
<tr>
<th>Item</th>
<th>Source</th>
<th>Cost Per Item</th>
<th>Quantity</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GRAND TOTAL
Lesson Plan: Grants and Grant Writing

Materials: List of available grants, sample grants

Summary: Students will learn about grants and complete sample applications

Through this activity, students will:
- Discuss grants and granting organization
- Look at the motives behind grants
- Complete sample grant applications
- Analyze others’ grant applications

Activity:
1. As a class, have students define the word “philanthropy.”
   a. Etymology: “the love of humanity”
   b. Refers to the generous donation of money to good causes.
2. Remind students of their debate on altruism, and ask students why an organization (ex. the Bill and Melinda Gates Foundation) might be giving money to institutions like schools and nonprofit organizations to further their work.
3. Explain the concept of a grant.
   a. Grant: A sum of money given by an organization for a particular purpose
   b. For example, the Pell Grant provides funds for students who need it to pay for college
4. Ask students, “if you were an organization giving students grants to go to college, how you would pick which students to give grants to if there are limited funds?”
   a. The organization itself has a goal: in this case, it wants students to go to college and succeed
   b. Grants tend to go to applicants who show that they are most in line with the organization’s goals
   c. Organizations want to know that the investment they made was worth the money
5. Explain the breadth of available grants to fund projects like vacant lot transformations.
6. In groups, have students complete the sample grant application.
7. At the end, have groups present to the class their grant applications.
8. The class should then discuss, as if they are the organization, whether they would fund that project.
Sample Grant Application

1. **What is the project and what issues does the project address?**
   Provide an overview of the proposed project, including purpose and a timeline.
   _______________________________________________________________
   _______________________________________________________________
   _______________________________________________________________

2. **Who will be your volunteers and how will you recruit them?**
   (Examples of volunteers: youth, adults, families.)
   Please list the number of volunteers you expect to engage through your project and how you will recruit them to volunteer.
   _______________________________________________________________
   _______________________________________________________________
   _______________________________________________________________

3. **How will youth be involved in this project?**
   _______________________________________________________________
   _______________________________________________________________
   _______________________________________________________________

4. **Who will the project serve?** (Examples of those served: veterans, seniors, youth, homeless.)
   Please describe the service recipients of your project and the number you expect to assist.
   _______________________________________________________________
   _______________________________________________________________
   _______________________________________________________________

5. **Who will you partner with?**
   List all community partners and/or collaborations that will be assisting with the project (including individuals, organizations, businesses.)
   _______________________________________________________________
   _______________________________________________________________
   _______________________________________________________________

6. **Budget – How much money will you need for your project?**
   Please complete the attached Budget Worksheet.

Modified from 2012 Global Youth Service Day Mini-Grant Application
<table>
<thead>
<tr>
<th>Available Grant Opportunities:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abell Foundation</td>
</tr>
<tr>
<td><a href="http://www.abell.org/grantmaking">www.abell.org/grantmaking</a></td>
</tr>
<tr>
<td>Due at board meetings held every other first month: January, March, May, August September, November</td>
</tr>
<tr>
<td>Chesapeake Bay Trust - Community Greening</td>
</tr>
<tr>
<td>(<a href="http://www.cbtrust.org/site/c.miJPXPCJnH/b.5457615/k.BFI4/Community_Greening.htm">http://www.cbtrust.org/site/c.miJPXPCJnH/b.5457615/k.BFI4/Community_Greening.htm</a>)</td>
</tr>
<tr>
<td>December 9, 2011</td>
</tr>
<tr>
<td>Chesapeake Bay Trust - Environmental Greening</td>
</tr>
<tr>
<td><a href="http://www.cbtrust.org/site/c.miJPXPCJnH/b.7634923/k.7463/Environmental_Education.htm">http://www.cbtrust.org/site/c.miJPXPCJnH/b.7634923/k.7463/Environmental_Education.htm</a></td>
</tr>
<tr>
<td>Letter of Intent: October 8, 2011 Final application: December 2, 2011</td>
</tr>
<tr>
<td>Chesapeake Bay Trust- Mini Grant: Community Engagement and Restoration</td>
</tr>
<tr>
<td>Rolling application. Due at least 6 weeks before start of project.</td>
</tr>
<tr>
<td>Chesapeake Bay Trust- Mini Grant: Environmental Education</td>
</tr>
<tr>
<td>Application has three deadlines: January 11, 2012; June 8, 2012; August 11, 2012.</td>
</tr>
<tr>
<td>Chesapeake Bay Trust- Outreach and Community Engagement</td>
</tr>
<tr>
<td>July 6, 2012</td>
</tr>
<tr>
<td>Chesapeake Bay Trust- Restoration</td>
</tr>
<tr>
<td>December 9, 2011</td>
</tr>
<tr>
<td>Greater Baltimore Children and Nature Conference</td>
</tr>
<tr>
<td>January 15, 2011</td>
</tr>
<tr>
<td>Home Depot Foundation- Community Impact Grant</td>
</tr>
<tr>
<td><a href="http://www.homedepotfoundation.org/how-we-help/grants.html">http://www.homedepotfoundation.org/how-we-help/grants.html</a></td>
</tr>
<tr>
<td>February 16-August 13, 2012</td>
</tr>
<tr>
<td>Lowes- Toolbox for Education</td>
</tr>
<tr>
<td><a href="http://www.toolboxforeducation.com/hta.html">http://www.toolboxforeducation.com/hta.html</a></td>
</tr>
<tr>
<td>Application has two deadlines: February 17, 2012; October 14, 2011</td>
</tr>
<tr>
<td>Organization</td>
</tr>
<tr>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>Mid Atlantic Nursery Trade Show</td>
</tr>
<tr>
<td>Open Spaces Sacred Places</td>
</tr>
<tr>
<td>PNC</td>
</tr>
<tr>
<td>Project Learning Tree- Traditional Green Works!</td>
</tr>
<tr>
<td>State Farm- Community Development</td>
</tr>
<tr>
<td>Whole Foods/Whole Kids</td>
</tr>
<tr>
<td>Youth as Resources</td>
</tr>
</tbody>
</table>
Lesson Plan: Soliciting Donations

Materials: Anatomy of a Donation Letter worksheet

Summary: Students will identify potential donor opportunities and craft targeted donation letters seeking support.

Through this activity, students will:
• Learn the necessary components of a professional donation letter

Activity:
1. Have students identify potential material or monetary needs for the project. Gather responses on the board.
2. Donations can be in-kind gifts (such as the donation of materials) or monetary. Have students identify which needs are in-kind. Underline them on the board.
3. Who in the community or city might be able to help us? Match names of organizations and people to the needs identified.
4. When asking for donations, a formal donation letter is needed. You want to sell the person or organization on your project (make them care!) and identify ways that they could help. You also want to look professional so your request is taken seriously.
5. Have students break off into pairs and assign each a group a person or organization that was identified as a potential donor.
6. Have students use the Anatomy of a Donation Letter worksheet to get started, and use the worksheet to begin a draft letter.
7. After letters have been proof-read, print them on school letterhead and have students address envelopes. If time permits, a second lesson could be done where students generate designs for a letterhead themselves.
### Anatomy of a Donation Letter

Using this worksheet, you can put together the basic elements of a letter to potential donors, asking for money or in-kind gifts (donations of materials, etc.).

<table>
<thead>
<tr>
<th>Who are you?</th>
<th>What are you working on? Why is it important?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What do you need? How much?</th>
<th>Why do you need it?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Why should they donate? (What's the benefit for them?)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>When should they respond?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Who should they contact for more information?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>
7. SITE PREP
7. SITE PREP

A successful construction day requires careful planning and preparation. This unit acts as a crucial checklist to insuring everything is ready to go on your lot.

If there is a lot of trash on the lot, you may need a schedule a lot clean-up day. Make sure students are well protected, as there may be dangerous materials. You can call 811 for Baltimore City services to request the trash to be removed once you have gathered it. Alternatively, you can contact Baltimore Housing to see if they will remove it. Have your lot address and/or lot number ready when you call.

Lot Prep
Construction Day Checklist

UNIT WRITING PROMPT

How important do you think planning and preparing for the actual construction day is? Explain how you think the day will go based on the prep work you've done. Explain how you think the day would go if you didn't plan at all.
The following items should be evaluated closely... to understand what needs to be done before construction day.

**Water**

If the project involves planting, water will have to be available. To get water access on your lot, there must be a live water meter pit nearby. There is a fee of $120 that must be submitted with your license agreement. Power in Dirt coordinators can help identify live water meter pits. If there is no nearby source of water, you will need to consider the amount of effort required to get water to the site, such as hauling buckets or using long stretches of hose.

**Erosion**

When you walk around the site, check for soil washout on the sidewalks. If this exists, there may be a down-spout draining onto the site or a slope that is too severe. Can this water be captured in a rain barrel and used to water plants? Will the designer use a ground cover on the slope to hold the soil in place? Study how the movement of soil occurs and work with the design coordinator to stabilize any erosion problems.

**Rock, Concrete, or Old Building Materials**

A project site may have large rocks, an abandoned walkway, or buried debris which will need to be removed. In urban areas, a building may once have stood on what is now a vacant lot, and has since been torn down. These sites can be difficult, as the building foundation may still be buried there. In addition, the site could be filled in with rubble from the original structure - bricks, concrete, rotted wood, may all be buried on the site. Identifying the previous use of the site, and even digging some test pits should be done early in the planning stage if you suspect that old building materials are buried there.

Removing such debris can take a lot of heavy lifting and hard work – heavy equipment may even be necessary. Removing debris and rocks may also require that large amounts of good soil be brought in to insure proper grading, drainage, and growing conditions for the site.

Frequently though, large rocks or old building materials that are not rotten, such as lumber and concrete, can be re-used in the final design of the site. A clever designer can make use of a wide variety of objects, even though at first glance they seem like trash. Even old concrete can be worked into a design that ties the new open space to the past, adding character to the project.

**Trash**

If your project site has trash on it, it’s important to know what will be needed to remove it. Photographs do a great job of reminding you later, when you get home, just what and where the garbage is. If there are larger items, such as old furniture or appliances, give them a shove during the site visit to determine how heavy the item is so you can make plans on removing them.
Never attempt to move hazardous materials without first seeking the advice of public agencies. If there are drums or barrels on the site, call the health department immediately. Such containers may contain toxic substances which could be harmful to people. NEVER sniff or touch unknown substances, as some can be very harmful even in small doses. Used needles may also be a problem in certain areas, and all volunteers must wear heavy gloves and look carefully at everything they pick up!

Hauling/Dumping

A willing neighbor with a pick up truck can be a real hero for the project planners if large, bulky items need to be hauled away from the site. The location of the municipal dump and what materials can be disposed there is an important piece of information. Some municipalities have strategically located transfer stations that may allow a small hauler to dump large bulky items like old appliances, concrete, furniture, and tree limbs.

Weeds

Weeds can be a big problem on a site. An important rule of thumb in getting rid of weeds, grass, or small shrubs is this: for every part you can see - branches and leaves - there is generally an equal amount of root below the surface. If you don't get the whole root, the weed will come back. Even the best gardeners rarely get the whole root, but it is important to try. Tender flowers planted in a weedy place will quickly be choked, as weeds seem to grow much better.

Investing time and care in good weeding before you start planting anything will pay off in the long run. Weed roots left behind can sprout in just a few days and ruin the appearance of the great new space you've created. Every garden has to be weeded during the spring, summer, and fall, but a good job of getting the roots out before you plant will make regular weeding much easier.

Specific ways to address weed problems are discussed in the Construction and Maintenance sections of this manual, but it is important for the construction coordinator to consider what it will take to manage weeding efforts. What areas of the site will require cultivation before planting? What are the problems associated with maintenance of large planting areas on weedy sites?
Construction Day Checklist

Lot Prep
☐ Have you spent time weeding and clearing trash on site? OR is this part of your plan for construction day?

Equipment
☐ Have you gathered tools like wheelbarrows, shovels, rakes, spades, and heavy-duty gardening gloves?
☐ Have you made arrangements to get everything to the site?
☐ Have you arranged for any deliveries of wood mulch and/or leaf compost?

Volunteers
☐ Have you created specific tasks to keep everyone busy?
☐ Have you obtained permission slips?
☐ Have you bought or received donations for water bottles and snacks?
☐ Will volunteers need to be fed breakfast, lunch, or dinner?

Services
☐ Have you contacted all of the outside assistance you’ll need? (ie. help with land-moving, mulch dumping)
☐ Do you have access to water if needed?
☐ Have you arranged for services from the city like bulk trash and debris removal or heavy-duty digging and soil removal?
8. CONSTRUCTION
Construction day is here! The following unit will guide you through the hard work and satisfaction of a successful construction day.

UNIT WRITING PROMPT

Transforming a vacant lot is a lot of work, but also extremely rewarding. Reflect on construction day. Who did you get to meet and work with during the day? What was one example of a moment where you felt glad you were working on the project?
If your research/planning stage was thorough, construction day can be a big celebration. There may be music and food, and as the site is transformed, everyone gains a sense of accomplishment. The whole neighborhood benefits on construction day, and the project team sees the vision take shape.

This section focuses on construction techniques and tools. It does not attempt to cover every single possible construction technique required for building an open space, but it does cover the basics. Libraries, the internet, and professionals can provide a lot of additional information and detail. Regardless, you will need to consider construction requirements carefully as you plan your project, as they will influence the following components:

- **Budget and donations** - Do you need special tools, hardware, lumber, or stones?
- **Volunteers** - Will construction require heavy lifting, lots of digging, or special skills?
- **Schedule** - Can the project be completed in one day? Will certain features such as walls or walkways have to be built before planting can begin? Or, will a day of site clean-up be needed before construction day?

### Safety

Every construction site has hazards. Heavy lifting, sharp pruning shears, even an average shovel can all cause injuries through accidents or misuse. Being aware of potential injuries to volunteers is necessary.

Hazardous materials on the site should be removed either by professionals, a public agency, or the local fire department, and this removal should be planned early in the project. Make sure all volunteers are wearing gloves. If power tools such as a drill or saw are needed for your project, have safety glasses available - these can be purchased inexpensively at most lumber yards or hardware stores.

Improper lifting can cause serious injury to your back. Back injuries can leave you bed-ridden for weeks, and can also lead to long-term problems. It may be helpful to have someone demonstrate proper lifting techniques.

When lifting, keep these tips in mind:

- Let your legs do the work, and stick out your can!
- Hold the load close to your body.
- Keep your upper back straight and bend only at the knees.
- Move straight up and down.
- Avoid lifting and twisting simultaneously.
- Use wheelbarrows, dollies, and carts as much as possible.
Water, Water, Water!!!

Make sure you have access to a good water source before you plant any live material!!! On a really hot day, water plants as soon as you can; otherwise they will wilt, and can begin to die at the tips. When you plant trees and shrubs as described later in this section, you will have created a dish with the soil that should be filled with water several times after planting. Fill it, go to another plant and fill its dish, go to the next, then the next, and start all over again. By then the water in the first plant’s dish will have soaked in. Do this for all plants at least 3 - 6 times depending on the size.

A general watering schedule should be developed for your project that takes into account the season, how much rain actually falls, and the types of plants installed. Projects planted in the spring will likely need less water than those planted in the summer, but keep an eye on things! Plants have a great way of telling you they’re thirsty by wilting, and at the first sign of wilt, drag out that hose or bucket!

Conversely, it is possible to over-water plants. If you have given them a good solid drink every day for a week, begin slacking off a bit, and try every other day, or even every third day. There is a great deal of trial and error here, because sun, wind, rain, and plant type all determine how much water is needed, and how frequently. Use your best judgment, but mostly, keep a close watch on the plants because they’ll tell you when they’re thirsty.

The Order of Construction

In general, a good way to plan construction is to order the tasks from “biggest to smallest.” For instance, soil preparation, subgrading for a wall or walkway, or removing large amounts of debris take up space to complete and can affect the whole site. Having volunteers buzzing about trying to plant and water during major operations can cause confusion and problems. This section is roughly organized to match the order of construction a real project should follow.

Tools and Techniques

Make sure you have the right tool for the job! Many times people will fight and struggle with a task using the wrong tool, perhaps a flat shovel instead of a round shovel. Digging, planting, and moving heavy objects is difficult enough without having to also struggle more because you’re using the wrong equipment.

Preparing the Soil

Preparing the soil correctly in the beginning can save you a lot of work later on. There is nothing worse than seeing a beautifully finished open-space turn weedy, or seeing new plants and trees struggle because of poor soil. Removing weeds, correcting the grade, and adding nutrients to the soil is an important first step during construction, and it can be done well in advance of the planting.
Many neglected open spaces are created as a result of housing demolition and so are left with rocks, bricks, and other debris that lay just beneath the surface of a thin layer of soil. The grade is often imperfect leaving the soil level well below the sidewalk grade. Gardening in problem soils (eroded, compacted, high clay content, new subdivision) can be frustrating! In these situations it is best first to create fertile soil and correct the grade.

It is important to note that preparing the soil for planting involves some of the hardest labor during the project. Large quantities of soil, rock, and organic matter may need to be shifted and moved about. Trucks and tractors do this much more efficiently on larger sites than people hand shoveling. You can either contract with a professional site grading company (usually $15 - $25/square foot), or there may be someone in the neighborhood with tractor operating experience. If so, you can rent a bobcat or a tractor (around $150-300 per day) and have volunteers bring pick-up trucks.

If you do not contract with a professional for soil preparation, you need to make arrangements to either have material (such as organic matter or topsoil) delivered to the site, or picked up by volunteers. You will also need to make arrangements to get rid of weeds and rocks, either by burying them deep on the site (3 - 4 feet), or by hauling them to a dump.

For supplies of bulk material, look under Landscapers in your local phone directory.

Removing Weeds and Grass

When creating a garden, the first thing to do is to remove all unwanted plant growth - leaves and roots. Simply tilling them under will not work. Roots left behind will be mixed in with rich topsoil or organic matter and will be very happy, then grow! Get as much of the root from weeds and grass out as you can!

The easiest, non-chemical way to kill weeds is to shut the plants off from sunlight and rainfall for a full year. To do this, first dig out all the thick, woody weeds and their roots (sometimes over 1-foot deep!) Then grassy weeds should be mowed down very close, or scalped, to the ground. A thick layer of black plastic is then placed over those areas you want for garden beds and pinned down with sod staples. Do not use weed barrier fabric that is perforated. Rather, choose a material that shuts out light and moisture to the soil beneath, thus killing all of the roots. This should be left in place for a year, then the plastic can be removed and the area tilled.

However, if you do not want to wait an entire year before your site is ready, you will need to thoroughly remove all weeds and weed roots by hand. This is time consuming and very difficult when soil is dry, but it pays off in the long run (see ‘Weeding’ below). If the site has established “turf” or grass, this should be stripped off using a spade, usually to a depth of 2-3 inches depending on the type of grass growing.
Grading

The soil on your site may need to be redistributed - filling in low spots, and taking out humps. It is very important to establish a rough grade that will allow water to properly drain off of your site. If more soil is needed, you can arrange to have topsoil and organic compost delivered. Unless there are severe humps or low spots, much of the work of grading is accomplished with tilling. What’s most important is that water drains properly, especially away from any neighboring buildings.

Tilling - For small bed areas, tilling with a shovel or sturdy fork can do the trick. Large new garden areas though, may require a power tiller. The most important aspect of tilling is to really loosen the soil and mix it up - turn over a good 6 - 8 inches. It is important to till this deep to loosen the soil (especially clay) at a depth where new plant or tree roots will be sprouting. It also turns up rocks and buried debris that then need to be raked out.

There are a variety of power tillers available, and most are fairly expensive. You can, however, rent these at most general rental centers. Smaller tillers, such as the Mantis®, are good for very shallow tilling. These generally will till to a depth of 2-4 inches, which can be good for turning organic matter into the soil of established gardens, but stay clear of existing plant and tree roots! For creating new garden areas, especially on sites where there are weeds, it is best to go 6-8 inches deep.

Adding Organic Matter

After the initial tilling, mix in seasoned manure, leaf compost, or other organic soil amendments (based on soil test recommendations). In the Design section of this manual, we describe how to calculate how much organic matter you will need for your project.

Smaller areas can be prepared by renting a rear-tine tiller. After removing all the weeds, use a tiller to dig in 6-8” inches to turn and loosen the soil. Mix in topsoil and organic material to create fertile bed areas (see chart below). Use a steel rake to smooth out the planting beds. If the soil on site is too compacted or has too much construction debris an alternative is to build raised beds with lumber or stone and fill them with a mixture of screed topsoil and compost (discussed later in this section.)

Plastic Weed Liners

Some folks will put down a layer of plastic, hoping to create a barrier that will keep weeds from coming up. Then a layer of mulch covers the plastic. This may work for a few weeks, even months, but weeds will eventually come through! Professional landscapers frequently come across gardens filled with weeds, and discover a plastic layer that is no longer is working. Then, not only do the weeds have to be removed, but the plastic as well, which, when being removed, can damage the good plants it’s close to.
Gardens can be designed to last forever, but plastic layers are not. In a short time they dry-rot, or seams widen, and before you know it, you are trying to pull out weeds from below the plastic. This makes the not-so-much-fun job of weeding even worse. In short, never put plastic down thinking it will prevent weeds! It may help for a little while, but it will ultimately fail, and need to be removed. Like it or not, there is no way to completely eliminate weeds in a garden, which is why long-term care needs to be considered.

**Undisturbed Subgrade**

The most solid foundation for structures is the existing grade - it has most likely been firmly in place for years. In general, the idea is to make sure the main supports for your structure are set on the subgrade.

It is important to know the difference between the subgrade and backfill. When you dig, you loosen the soil, and once the soil is loosened, air pockets are created. Over time, this loosened soil will settle, as rain water and gravity pack the soil. This shifting or settling soil will not make a good foundation for a walkway, curb or wall, as the built structure will settle too.

Therefore, stable structures use the unloosened, or packed existing soil for a foundation. In setting stones, brick, or timbers, a base of coarse sand or “stone dust” is lightly wet, tamped solid, then smoothed. Sand and stone dust pack much better than loosened soil for a solid base.

**Using a Stringline**

In building walls, walkways, curbs, and other permanent structures, a stringline (shown at left) is a useful tool to make sure things are built level or slightly angled for drainage. Or, if you’re building a fence or walkway on a site with a slope to it, you will want the new structures to follow the natural slope evenly, and a stringline will guide you as you build.

To make a stringline, use two 18” rebar and 1/8” cord or twine. Start by driving one of the rebar into the ground firmly at one end of the area. Attach the string tightly at the desired height.

Drive the second rebar into the ground at the other edge of the area. Measure the height from the ground where you want the string to attach, and tightly tie it to the rebar. The string must be stretched and stay tight.

Set up the stringline so that it marks where you want your feature to be. Use a level and tape measure to be certain it is placed at exactly the right height from the ground, as it will guide you in final placement for the structure you build.
Building with Timber

Wood can be a sturdy, long lasting, and relatively inexpensive material for building curbs, walls, and raised planter boxes. Recent advances in weatherproofing for lumber are eliminating hazardous substances from this material, including creosote and arsenic. A word of caution – 6" x 6" timbers provide the best longevity and strength, but these are very heavy and can be cumbersome to work with!

Timber walls, curbs, and planter boxes all require the same tools:
- Tape measure
- Circular saw or chainsaw
- Level
- Rebar
- Stringline
- Pick
- Flatshovel
- Spade
- Sledge hammer
- Coarse sand
- Wheelbarrow

Working with timbers involves heavy lifting and special tools, and safety must be carefully considered. Make sure that gloves and eye protection are available to volunteers building with timbers.
- Use a circular saw or chainsaw to cut timbers to the right size.
- To keep timbers from shifting and twisting, use 1/2" galvanized spikes and 1/2" reinforcement bar (rebar) for stability. Pre-drill holes using a 3/8" wood drill bit. Using a regular hammer, start driving a spike or rebar into pre-drilled hole, then finish driving with heavy maul or sledge hammer.

For building walls or planter boxes, a typical spiking pattern is shown on the next page. It is important to avoid hitting a spike or rebar in the row below, because you will not be able to drive through.
- When driving spikes and rebar, make sure to drive each piece so it is flush with the top of the timber. Spike or rebar sticking up will cause timbers set as a next row to wobble.
- For walls that have a corner, or when building a raised planter box, make sure that the ends of the timbers overlap. This provides additional stability to the structure.
- For walls over 2' high, include a 3' - 4' "deadman" or tie back in every 8 linear feet of wall. (See diagram next page.)

Walls

For either soil retention or as a defining border, walls made of stone or lumber add a dimension of solidness and stability to the look of an open space. Walls are not difficult to build, but they should be built to last, and certain rules must be followed during their construction.

Based on physical laws of nature, an unbraced wall will eventually tip over. The counterforce of a "deadman" in a timber wall keeps it sturdy longer. A combination of gravity and concrete stabilize a stone wall.
**Planter Boxes**

Planter boxes make excellent garden spaces where the soil is poor, rocky, or too contaminated. They also reduce bending over for the gardener, and may be an ideal design for older gardeners, as they tend to raise the plants up to you. A simple ledge using 2” x 8” lumber, braced underneath, can be built along the top edge for this additional feature. One disadvantage to planter boxes is that soil dries out fairly quickly because it is exposed to wind and heat. But if you have a good water source, and enjoy taking care of your garden space, planter boxes are a flexible way to make a garden where it would otherwise be difficult.

**Fences**

Fences do a great job of defining the boundaries of the site. If necessary, they also add security to the site from animals and vandals. There are many types of fences, but their construction follows the same principals.

Wood picket or iron fence can be purchased on pre-manufactured sections which then are attached to the post. Chain link fence comes in long rolls. Before digging the post holes, it’s best to layout the fencing part to line up where the posts go.

Because the post provides the strength and stability for the fence, it is important to make sure it is set well. Use post hole diggers to get a deep, narrow hole. The less disturbance of the packed and settled soil around it, the sturdier it will be.

Dig deep enough to bury at least 18 inches of the post, while leaving enough above to match the height of the fencing. If you hit rock that simply can’t be removed, trim the post with a circular saw or chain saw, but remember - the more of the post in the ground, the more sturdy it will be.

Once the hole is the right depth, set the post in. Backfill 3 - 4 inches, tamp with a tamping bar, and make sure the post stays straight in all directions. Repeat this, and then fill the remainder of the hole with concrete. Let set at least 24 hours before you attach the fencing.

Use either a level or a stringline in attaching the fencing to the posts, to make sure the fence follows the soil grade evenly.

**Walks**

Much like walls, walkways add a feel of solidness and permanence to the site. Again like walls, these too must be built for durability, and certain rules must be followed during their construction.

If there are dips or bumps in the grade, these must be first be smoothed out, as you want the walkway to be smooth.

Once the site is graded, outline where the walkway will go with spray paint, a hose, or by digging shallow markings with a shovel. Make the outline about 2 - 3 inches wider on both sides than the final the sidewalk.

Once the walkway is outlined, begin digging the path. In general, you want the top of your walkway to be flush with the existing ground.
For concrete or blacktop, dig evenly down 3 inches, all the way across the outlined space. For stepping stones or brick, dig down the depth of the stone, plus an additional 1 - 2 inches for a sand or stonedust base. For a mulch or gravel path, stable edging must first be installed, or the mulch or gravel will get kicked outside of the pathway. 4” x 4” timbers, secured with rebar, provide excellent, long-lasting edging.

Begin by digging out for the edging - this will look like trenches. Set the 4” x 4” timber in place, drill holes in them for rebar, then drive 18” rebar through and into the ground. Dig out 2 - 3 inches in between the timbers for placing the mulch or gravel.

Rearranging Existing Rocks, Timbers, Concrete

Frequently a site may have old concrete slabs from an abandoned sidewalk, or timbers from an old wall, or large rocks and boulders uncovered during grading. These materials can be used on the site for pathways, retaining walls, or simply to add texture to the site.

A good rule of thumb in planting your site is to put big items in first, then fill around them with smaller plants. There are two reasons for this:

- Although the design may have been planned perfectly on paper, the plants you actually end up with may be slightly smaller or larger than planned. If you put the big things in first, it’s easier to adjust where the smaller items fit best on the site. This doesn’t mean rearranging the design, but simply making adjustments in the final layout.

- Planting large trees and shrubs is heavy work! When you’re moving lots of dirt, and shifting large root balls around, the last thing you want to worry about is a little tiny marigold someone planted nearby. Save the smaller plants for last, and you may be saving the smaller plants’ lives!

Whether you are planting a large tree, shrubbery, or small potted flowers, the following steps generally describe good techniques for planting:

- Start by setting the potted or burlap-wrapped item in the spot you want.
- With a shovel or hand trowel, carefully mark a circle around the plant that’s ½ the width of the rootball all around the plant, then move the plant out of the way.
- Dig the hole making sure that the top of the rootball will rest flush with the grade around it. It helps to have a tarp nearby, to place dirt on as you dig, especially if you are planting in a grassy area. This makes it easier to backfill the plant later, and to clean up afterwards.
- If the plant is in a plastic container, carefully remove it by turning it upside down, holding the plant by the rootball, and pulling the container off in an upward motion. Gravity will pull the plant out. Some containers may be difficult to remove, but do not try to pull up on the trunk of the plant, you may break and kill it.
- Place the plant into the hole, making sure that it’s at the right height. If a tree is wrapped in burlap, loosen wire, rope, and remove nails to prevent these from constricting on the growing tree trunk. It is not necessary or even a good idea to remove all of the burlap. It holds the rootball together, and will disintegrate harmlessly.
• It is very important not to disturb the root-ball during planting. Broken roots and air pockets can harm your plant, even kill it.
• When the plant is set, make sure it is straight and that its best-looking side is visible.
• Backfill the hole halfway with the dirt you removed.
• Carefully step this down with your foot to pack it.
• If practical, water the plant now to further pack the backfill, and to be sure that roots stay moist. This can make a muddy site though, so be prepared!
• Check to make sure the plant is still straight.
• Replace the remaining backfill, stepping it down carefully as you go.
• There will be extra soil, so use this to build a “dish” around the rootball. This will act as a dam, allowing water to soak into the rootball instead of running off.

Mulching

After the plants and trees are in the ground, apply a layer of mulch to everything. Mulching accomplishes several things:

• **Water retention** - a good bark mulch will absorb water and keep it longer than soil, which tends to let it run off or wash through more quickly. This absorbed water keeps the soil below it cool and damp, which is helpful during hot summer months.

• **Organic matter** - when mulch breaks down, which it will with regular cultivation (twice a year), it decomposes into carbon and minerals that plants need for healthy growth.

• **Erosion protection** - mulch will naturally compact and form a barrier that protects soil from eroding during heavy rain storms.

• **Weed prevention** - weeds from seed will have a more difficult time coming up through a layer of mulch. Weeds with established root systems, however, will continue to pop up even through mulch. **MULCH IS NOT A GUARANTEE AGAINST WEEDS.**

In applying mulch to your garden areas, keep in mind that different plants and trees need different thicknesses of mulch. For instance, trees and larger shrubs grow best with a 2-3-inch layer of mulch, while smaller shrubs, perennials, and annual flowers prefer no more than 1 inch of mulch. This is because the moisture held by the mulch can rot the stems of more tender plants.

Also, larger trees and shrubs have deeper root systems, and don’t dry out nearly as fast as smaller plants or flowers. Because mulch can actually prevent water from passing all the way to the soil, during dry summers, small rains may never get through the mulch to the soil. The deep-rooted plants and trees can handle this much better than shallow-rooted plants or flowers.

Bulk mulch (by the truckload) is measured and sold in cubic yards. The Design section of this manual provides information on how to calculate how much mulch you will need for your project.
Grass

Whether you plan to sow grass seed or install sod (strips of live, rooted grass), the area must be prepared similarly. First grade the area as smooth as possible. Till the area about an inch or two, so that new roots can grow and establish easily. Then, get rid of any rocks or weed roots at the surface with a steel rake. Make sure you don’t leave rocks where you sow grass seed, because these can be dangerous if run over by a lawn mower.

Seed - Different types of seed can be sown at different amounts. Make sure that the design coordinator has planned to have enough seed for the area to be covered. Seed should also be covered with a layer of straw to keep it from washing away when it rains. Most home improvement centers sell bales of straw. After the area is seeded and strawed, sprinkle gently to moisten the material and the soil. Be careful that you don’t wash the seed away! Some grass seeds sprout within 3 - 4 days, while others may take over 2 weeks. This too must be considered by the Design Coordinator.

Sod - Laying sod can add a dramatic change to the project site, as it gives you an instant lawn. If the design includes sod, there are a few things to remember when you install it.

• Laying sod is heavy work - make sure you have strong volunteers, sturdy wheelbarrows, gloves, and d-handle spades. If the sod is not delivered, you will need a truck to pick it up.
• When placing pieces of sod, line up the edges as tightly as you can so there are no stripes in the finished lawn.
• If you are laying sod on a slope or hill, make sure you get staples with the sod. These are 6” long, and poke right through the sod into the grade beneath to hold it in place until it starts growing.
• As with plants and trees, make sure you water sod thoroughly!
9. IMPACT EVALUATION
In any community service initiative, there are three major stakeholders:

1. Those carrying out the main implementation of the project (students)
2. Those organizing and facilitating implementation (teachers/coordinators)
3. Those being served by the implementation (the community)

This unit contains evaluations aligned with Maryland’s Seven Best Practices for Service-Learning to gauge student engagement and community impact.

**UNIT WRITING PROMPT**

How did this project change the way you think about your community? Can you think of other projects you’d like to tackle in the future to address other needs in your community?

---

**Student Evaluation**

**Teacher Questionnaire**

**Site Report**
Student Evaluation

Impact Evaluation

What community need did you work to address? 

How involved were you in determining that need?
Please check all that apply:

☐ I provided short-term assistance addressing a community need.
☐ I provided ongoing assistance addressing a community need.
☐ I worked toward a lasting solution to a community problem.

On a scale of 1-5 (5 being the most), how effective were you in addressing the need? 

On a scale of 1-5, how essential was addressing this need to you before this project? 

On a scale of 1-5, how essential is addressing this need now?

Service Evaluation

On a scale of 1-5, how involved were you in planning for the service?

Please check all that apply:

☐ I was not involved in planning for the service.
☐ Teachers gave me choices for how to implement the service.
☐ We worked with teachers to figure out how to implement the service.
☐ Teachers facilitated student coordination of and planning for service.

Learning Evaluation

How often you did you...

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Once</th>
<th>Throughout The Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflect on your service experience?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learn how your studies (ex. math) relate to your service?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learn new skills and knowledge needed to do your service?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discuss your reflections with other students or community members?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional Comments
Teacher Questionnaire

Impact Evaluation

What community need did you work to address? ________________________________
How was that determined? ________________________________

How involved were you in determining that need?
Please check all that apply:
- [ ] I provided short-term assistance addressing a community need.
- [ ] I provided ongoing assistance addressing a community need.
- [ ] I worked toward a lasting solution to a community problem.

Service Evaluation

Please check all that apply:
- [ ] I told students what they would be doing for their service.
- [ ] I provided students with choices for how to implement service that I planned.
- [ ] I shared responsibility with students for planning and implementation.
- [ ] I facilitated student definition, coordination, and implementation of service.
- [ ] Only I consulted with community partners.
- [ ] I created opportunities for students to interact with community partners.

Learning Evaluation

<table>
<thead>
<tr>
<th>How often you did you...</th>
<th>Never</th>
<th>Once</th>
<th>Throughout The Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have students reflect on their service experience?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tie service experience to curricular content?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teach students new skills and knowledge needed to do service?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide students with responses to reflections?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional Comments
Site Report

Contact Information

Name: ________________________________
Title/Relationship to Baltimore CARES: ________________________________

Impact Evaluation

What community need did you work to address? ________________________________
To the best of your knowledge, were you or members of the community involved in determining the need to be addressed? ______________

Please check all that apply:

☐ Students provided short-term assistance addressing a community need.
☐ Students provided ongoing assistance addressing a community need.
☐ Students worked toward a lasting solution to a community problem.

Partnership Evaluation

Rate your experiences working with our students

<table>
<thead>
<tr>
<th></th>
<th>Outstanding</th>
<th>Good</th>
<th>Satisfactory</th>
<th>Poor</th>
<th>Inadequate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professionalism</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engagement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respectfulness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rate your experiences working with our program

<table>
<thead>
<tr>
<th></th>
<th>Outstanding</th>
<th>Good</th>
<th>Satisfactory</th>
<th>Poor</th>
<th>Inadequate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependability/Punctuality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervision of Students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please check all that apply:

☐ Only teachers consulted with me for information and resources.
☐ Students consulted with me for information and resources.
☐ I collaborated with students to plan and implement the project.

Additional Comments
10. SUSTAINABILITY
Because of the nature of the school year, every project must come to an end. This unit will help you guide students in thinking about the long term sustainability of their work. How will you maintain the lot after the project is over?

The purpose of the following activities is to create a legacy and provide future cohorts with the background knowledge they need. It is also a great way to have students comprehensively reflect on their year and communicate those reflections.

UNIT WRITING PROMPT

Now that the project is coming to an end, reflect on your experience. Using what you know now, what advice would you have given to yourself starting out?

Maintenance Project Portfolio
Unit Prep: Sustainability

How do you plan on sustaining the project? How will the lot be maintained? Is the community involved? Explore different options. Perhaps the community would take on the responsibility of maintaining the lot. Perhaps you have a science teacher who is willing to incorporate regular visits to the lot into their class. Maintenance trips might be a good way to help other students get service-learning hours. Discuss with appropriate administration, your school’s service-learning coordinator, and other teachers about ways the lot can be maintained.

If the lot is maintained for five years, it is eligible to be a part of Baltimore Green Space. This organization, for $1.00, will purchase the space as part of a land trust, protecting the lot from development. This is dependent on how well the lot is maintained and how it is used. More information can be found here: http://baltimoregreenspace.org/
Lesson Plan:
Project Portfolio

Materials: binder, important documents from the project

Summary: Students will create a project portfolio to document their work and aid another group in carrying on the project.

Through this activity, students will:
• Reflect on the project through writing

Activity:
1. Have students reflect on the project. What went well? What didn’t go well? What would you do differently?
2. Have each student create a list of tips and tricks that reflect what they learned throughout the process, and would help someone else to duplicate it. For example, if you learned that you can save money and use recycled wood to make benches, you would want to note where you found the wood and how you built the benches.
3. Have a binder available that each tips and tricks list gets added to, along with other important documents from the project.
4. If students finish early, you can assign individuals to design a cover for the binder, or print out information they might have found on relevant websites during the project.
Creating a beautiful open space in the neighborhood can be tremendously rewarding. Having a natural place to which you can retreat, or simply walk by can be inspirational, and connecting with nature is a wonderfully calming experience. But creating and maintaining an open space that is inviting and beautiful takes hard work and long-term commitment.

Nature, left to its own devices, will do what it wants. In the Middle Atlantic Region, which includes Maryland, nature likes to grow forests. If you look at undeveloped areas, you find big pines, oaks, and maples, then underneath, laurel, azalea, and dogwood. Ivy and crows feet creep naturally along the ground. But getting to this ultimate balance naturally, takes centuries and mother nature goes through some less-than-lovely turns getting there.

A bare patch of land will first grow weeds from seeds blowing in the wind or dropped by birds. Then weak, gnarly scrub trees take hold. Mice, rabbits, and raccoons like this environment, but people don’t. Eventually, stronger species of shrub and tree dominate, but this takes a long, long time. People can manipulate this evolution, but it takes work, patience, and commitment to making sure the plants and trees you want are the plants and trees that grow.

Gardens can last forever if cared for, but without regular maintenance, nature can take over, and weeds can dominate the garden in just a few short months. After a year of neglect, the loveliest of gardens can turn into an overgrown sea of weeds.

We do not want to scare you away from a neighborhood open space project, but we do want you to be fully aware of the work and long-term commitment needed to make the project last. For every successful neighborhood open space project, there are dozens that fail because the leader was all alone in managing the project. This is why we have dedicated an entire chapter of this manual to the planning stage, where the Core Team and its responsibilities are described. Mother nature is incredibly powerful, and to keep her working for the open space, and not against it, requires attention and commitment from the neighborhood.

Clean-Up Days

Most open spaces require clean-ups once or twice a year. Weeds, leaves, and trash build up and spoil the appearance – even the health – of an open space. Although clean-up days can be hard (and dirty) work, they can also be lots of fun, and very rewarding for those who help out.

During the research/planning stage, the Design and Construction Coordinators should have gotten a good idea of what sort of work will be needed, and how often, to keep the open space healthy and beautiful. Based on this planning, clean-up events can be planned in advance on construction day if the neighborhood is committed.

To make the clean-up fun, you may want to serve food and sodas, play music, and make sure there are plenty of volunteers and tools so that the work doesn’t become frustrating. If special skills are required for pruning or transplanting, make sure that knowledgeable people can be there. Clean-up days can be hard work, shoveling mulch and pulling out weeds, but the neighborhood will be rewarded every day with a rejuvenated, healthy, and beautiful open space.
Mowing

Open spaces with grass need regular attention. Grass areas can be wonderfully inviting, if kept cut. When nobody cares for it, though, it will quickly grow out of control. Once this happens, mowing the grass again becomes very difficult. During the research/planning stage, the Core Team must consider the amount of work involved in keeping grass cut, and plan to keep it mowed forever.

If grass is included in the open space design, plan to mow according to the following schedule:

- April - June: every week
- July - August: every other week
- September - October: every week

Mowers should be set to cut at 3 1/2 inches. A taller cut leaves enough blade to shade the grass roots, and also to look nice and green. Make sure the mower you use has a good, sharp blade.

Weeding

What is a weed? A weed can be any native or volunteer sprout from seed from last year's garden that is growing where you don't want it. It is frequently a sprout from roots left in the soil. Proper weeding attempts to get as much of the roots out of the soil as possible, as any root left behind will probably sprout a new weed again.

Even the finest gardens have weeds, sprouting from early spring through the fall. If weeds are left unattended, they will eventually choke out the plants you want to grow. Weeds are often native plants that thrive in the local climate, and will compete for water and sun, and usually win! Therefore, it is important to remove the weeds - and especially their roots - at least twice a year. Dedicated gardeners often weed each month or so.

Depending on the amount of area to be weeded, you may choose to dig up each weed one at a time, or till 6-8 inches with a spade or round shovel, removing the roots once they're loosened. Either way, it is important to remember that, for the amount of green plant you see in each weed, there is typically the same amount of root in the ground.

Depending on the type of weed, the root system may take on one of a variety of growth patterns. For instance, dandelions usually send out one major root straight down. Other roots branch out in all directions, and still others, especially certain grasses, send roots out that first grow down, then spread sideways, and sprout again nearby.

As you weed, pay attention to the roots you are digging out. Follow them through the soil, and try to remove them all.

Mulching/Cultivating

As discussed in the Construction section, mulch provides a number of benefits to the garden:

- Water retention
- Source of organic matter
- Erosion protection
- Weed prevention (limited)
An important property of certain mulches, especially shredded bark material, is that they can become crusty on the surface as the seasons pass. When this crust forms, it makes it difficult for rain and water to get through to the soil, and thus to plant and tree roots. It also keeps the mulch from “breaking down.” It is in breaking down that mulch becomes a source of organic matter, or food for trees and plants.

Therefore, it is a good idea every 6 months or so to “turn over” mulch in the garden. Using a cultivator, break through the crusty layer, and mix the mulch. Once you have broken it into clumps, use a steel rake to break it up further, and smooth out as best as you can. The cultivated mulch will more quickly decompose into nutrients for the soil.

Frequently, aging mulch becomes discolored. Cultivated mulch doesn't look nearly as nice as fresh new mulch does. But the aging mulch has excellent nutritive value to plants and trees, so it should not be removed. To make the cultivated mulch look better, try sprinkling by hand, a thin layer of new mulch over top - this should be very light, just enough to change the color, but not enough to add more thickness.

The Design section of this manual explains how thick mulch should be for different plants. It also explains how to calculate the amount of mulch you will need to cover the bed areas in your open space.

Remember - MULCHING WILL NOT ELIMINATE WEEDS! A layer of mulch may make it more difficult for weeds to come through, but they will come through. You should plan to weed any bed areas in the open space at least twice a year.

Pruning

Mother nature has her own way of pruning trees and shrubs - it's called dead branches or falling limbs during storms. These methods of pruning can be dangerous - both to those around the tree, and the tree itself. Therefore, good gardeners help out by pruning once a year or so.

Different trees and shrubs have different pruning requirements. Many books are available at local libraries and bookstores on how to properly prune different species. It is important to understand how and how often to prune, early in the research/planning phase. For instance, yew and boxwood like regular, close shearing, while azalea and laurel prefer selective, less frequent pruning. Knowing the requirements for pruning in planning your open space garden areas will greatly affect how much maintenance will be needed.

Pruning addresses several problems with trees and shrubs:

Diseased Branches - Diseased or dying branches should be removed immediately. Sick or dead branches may be broken during storms, causing damage where they fall, and potentially damaging the rest of the tree, as it may be split or ripped, inviting further disease. Disease can also spread to the rest of the tree or shrub, eventually killing it. If you are removing diseased branches, make sure you clean your tools with alcohol or bleach in between cuts to prevent contamination to healthy branches.

Crossed Branches - Branches growing across each other can rub, damaging the bark and inviting disease. Examine which branch is growing best, and remove the one that
appears to be growing in the wrong direction. Be careful with large branches so you don’t create a big blank space.

**Suckers or Water Sprouts** - Frequently, and especially with fruit trees, sucker sprouts grow at the base of the tree and mature branches. These sprouts use energy from the tree that could be better used by the tips of branches where new growth should be focused. Remove sucker sprouts as they emerge.

**Competing Branches** - The best way to envision the correct growth of a tree is to look at a very large and mature tree. Notice how its branches grow evenly, with plenty of space around the main trunk. Usually, these old trees have been pruned more than once by storms. The best new growth emerges at the tips of the branches.

All trees should allow light through them. In the summer when all the leaves are growing, look at the shade pattern of the tree. It should be spotted with light coming through. If it is not, then it needs to be pruned. Remove branches that are crowding the tree’s space. If two branches are growing in the same direction, remove the younger one to allow the more mature one to grow and fill the space.

**When to Prune**

The best time to prune trees and large shrubs is during the winter when the tree sap is stored in the roots. Removing competing branches, crossed branches, and suckers at this time will allow the life force of the tree to go to the branches left in the spring. Also, it is easier to see how the tree is growing when the branches are bare. Suckers should be removed as they emerge, regardless of the time of year.

**Making the Cuts**

Branches typically sprout from a tree in a V-shape, with a slight bulge at the joint. When cutting a branch, cut close to the base of the branch, but do not cut through the bulge - leave this, as the tree will more easily heal with this intact.

For large branches, use the following three-cut technique to make sure the bark doesn’t rip from the weight of the branch falling:
1. Several inches from where the final cut will be, cut through the underside of the branch about 1/3 of the way through.
2. Several inches out from this underside cut, cut the branch off.
3. Remove the remaining stub at the proper spot.

**Shearing**

Shearing is a type of pruning, but not all shrubs will tolerate it. Shearing can make a garden look well cared for, and be visually appealing, but so too can simply thinning a hedge with hand pruners. It is important to research the pruning requirements of plants during the research/planning stage.

For small, individual shrubs, scissor-action shears should be fine. Clip evenly, and make sure you don’t clip too closely. A very light shearing done properly can provide the manicured look you seek.
For large hedges, you may want to rent power shears. These can be either electric or gas-powered. Be sure there’s a source of electricity if you have electric shears. Power shears can be very dangerous, so make sure you wear protective clothing and eye protection. Do not allow children to use them. For very tall hedges, such as the one shown, you may need to set up a stringline to be certain you cut evenly.

**Perennial Care**

Perennials are popular plants that die back to the root each winter, then come back each spring. They are prized for their variety of blooms, textures, and leaf patterns. When perennials die back, they usually leave stalks and dead leaves on the surface, and these can be unsightly. If your open space has a manicured look, during a fall clean-up, you can cut the plant back to the ground. However, many gardeners will leave the stalks and old flower stems through the winter, as these can be a good source of seed for birds.

In the spring, however, all stalks should be removed to allow space for the new growth to emerge. The picture on the right shows a sedum in the spring, sprouting at the base with last year’s stalks ready to be removed.

**Raking Leaves**

Every fall, deciduous trees drop their leaves. Many tree’s leaves turn brilliant colors first, making this a truly rich season visually. But wads of leaves in open spaces can look bad, and cause health problems if not removed. Grass areas can rot if leaves are not removed, and shrubs and small plants can get fungus or disease from leaves left in them all year.

Raking leaves can be fun - who has never enjoyed jumping into a pile of leaves? Start by pulling as much of the leaves as you can out of shrubs and garden areas by hand - using a leaf rake on plants can break branches. Leaf rakes work great on grass areas though. Pile up the leaves for bagging, hauling by truck, or into the gutter for removal if your local department of public works offers pick up.

**Painting**

If your open space has features that were painted on construction day, such as fencing or timber, chances are that every other year or so you will need to repaint them. If old paint is chipping or blistering, make sure you scrape the loose paint off, then wipe or hose the surface with clear water. Let this dry before applying a fresh coat of paint.

Wooden or metal structures that have been painted will require repainting regularly. If untreated surfaces are regularly exposed to sun and water, they will fade, twist, rust, or rot. Once weather damage occurs on metal or wood, it is difficult to eliminate, so keep an eye on painted surfaces as the years pass to make sure your hard work lasts!
Baltimore Resources

Baltimore has a wealth of resources that can help with projects like this. The parks and greening community is very interconnected, and the following can be very valuable when it comes to planning your space. Talk to these groups early, and keep them connected to your project.

Parks and People Foundation
http://parksandpeople.org/
A non-profit organization that creates and supports educational, recreational and environmental programs and partnerships that work to unite the citizens and open spaces of Baltimore. Check out their Neighborhood Greening Grant awards of up to $1,000.

Blue Water Baltimore
http://www.bluewaterbaltimore.org/
Blue Water Baltimore’s purpose is to use community based restoration, education, and advocacy to achieve clean water in Baltimore’s rivers, streams, and harbor, so that citizens of the Baltimore region will enjoy a vibrant natural environment, livable neighborhoods, and a healthy, thriving Inner Harbor and Chesapeake Bay.

Chesapeake Bay Trust
http://www.cbtrust.org/
A nonprofit, grant-making organization dedicated to sparking on-the-ground change for the Chesapeake Bay and its tributaries in Maryland. Their goal is to increase stewardship through grant programs, special initiatives, and partnerships that support environmental education, demonstration-based restoration, and community engagement activities.
Neighborhood Design Center
http://www.ndc-md.org/
A non-profit that works to improve neighborhood livability, viability and sustainability by providing pro-bono design and planning services in support of community-sponsored initiatives. They mobilize volunteer architects, planners, landscape architects, engineers, and other design professionals who donate their professional services to help groups in the initial stages of neighborhood revitalization efforts.

Baltimore Office of Sustainability
http://www.baltimoresustainability.org/
The Office of Sustainability develops and advocates for programs, policies, and actions by government, citizen, businesses, and institutions that improve the long-term environmental, social, and economic viability of Baltimore City.

Power in Dirt
http://www.powerindirt.com/
Power in Dirt helps revitalize vacant lots in some of the most blighted areas of the city through volunteer engagement, and removing government red tape and bureaucracy.
Greening Resources

Parks and People Guide to Greening Neighborhoods
A comprehensive guidebook to creating and caring for community open spaces.

Vacant to Vibrant: A guide for revitalizing vacant lots in your neighborhood
http://gtechstrategies.org/assets/CommHandbook_VacantToVibrant.pdf
Greening Vacant Lots for Pittsburgh’s Sustainable Neighborhood Revitalization

The Benefits of Community-Managed Open Space
Community Gardening in New York City

Re-Imagining Cleveland
Ideas to Action Resource Book

Preserving Community-Managed Open Spaces: Criteria and Process
This document has been prepared to create guidelines for the screening and transfer of community-managed open spaces from City ownership to land trusts.

The Effect of Community Gardens on Neighboring Property
http://lsr.nellco.org/cgi/viewcontent.cgi?article=1049&context=nyu_lewp
This paper, from the Furman Center for Real Estate and Urban Policy, estimates the impact of community gardens on neighboring property values.
Lesson Planning Resources

Peace Corps Paul D. Coverdell WorldWise Schools
http://www.peacecorps.gov/wws/educators/lessonplans/
A resource for lesson plans created by current and former Peace Corps volunteers to educate students about global events and different cultures.

National Service-Learning Clearinghouse
Service-Learning Ideas and Curricular Examples (SLICE)
http://www.servicelearning.org/slice
An easy-to-search database full of hundreds of high-quality service-learning lesson plans, syllabi, and project ideas. Lesson plans are submitted by educators and service-learning practitioners

MD Common Core Curriculum Frameworks
http://mdk12.org/instruction/commoncore/index.html
Since the adoption of Common Core, educators from around the state have met to determine the Essential Skills and Knowledge associated with these standards. The draft frameworks at this website are the result of this work.

The Complete Guide to Service Learning: Proven, Practical Ways to Engage Students in Civic Responsibility, Academic Curriculum, & Social Action
ISBN 978-1-57542-345-6
A book of “Proven, Practical Ways to Engage Student in Civic Responsibility, Academic Curriculum, and Social Action.”

The Kid’s Guide to Social Action
by Barbara A. Lewis
ISBN 1-57542-038-4
“How to solve the social problems you choose - and turn creative thinking into positive action.”
Glossary

**Aerial view**
a bird's eye view of objects from above

**Altruism**
the principle or practice of unselfish concern for or devotion to the welfare of others.

**Asset**
a useful and desirable thing or quality.

**Carbon Sequestration**
the process of removing excess carbon dioxide from the atmosphere.

**Census**
a tool used to collect information from all members of a population.

**Ecosystem**
a community of organisms that interact in a biological environment.

**Environmental remediation**
the removal of pollution or contaminants from soil, groundwater, sediment, or surface water.

**Erosion**
the process by which the surface of the earth is worn away by the action of water, glaciers, winds, waves, etc.

**Food desert**
an area in a city without supermarkets or access to fresh and healthy food.

**Grant**
money given by a foundation or organization to help fund a project.

**Heat Island**
an urban area that is much warmer than surrounding areas mainly as a result of development that removes natural landscape and replaces it with materials that retain heat.

**Impervious surface**
land covered by impenetrable materials, like asphalt, concrete, brick and stone, roads, sidewalks, and parking lots are good examples. these surfaces force water to run off.

**In-Kind**
paid or given in goods, commodities, or services instead of money.
Irrigation
a system that provides water to areas of dry land.

Itemized Budget
a tool used to outline the specific material needs of a project.

Lead
a soft malleable metal often used in building construction. at certain levels it is a poisonous substance for animals and humans.

Livability
suitable for living in; habitable; comfortable.

Mulch
a covering, as of straw, compost, or plastic sheeting, spread on the ground around plants to prevent excessive evaporation or erosion, enrich the soil, inhibit weed growth, etc.

Organic
noting or pertaining to a class of chemical compounds that formerly comprised only those existing in or derived from plants or animals, but that now includes all other compounds of carbon.

Permeable surface
a surface that allows water to filter through. turf, gravel, and planting beds are good examples.

pH
the measure of acidity or basidity of a substance, solid, liquid or gas.

Pro-Bono
done or donated without charge; free.

Revitalization
to give new life to.

Scale
a system of measurement that allows you to reduce the size of what you are drawing so that is is represented as a fraction of the actual size.

Sod
a section cut or torn from the surface of grassland, containing the matted roots of grass.

Solicit
to seek for (something) by earnest or respectful request, formal application, etc.
**Stewardship**
the responsible overseeing and protection of something considered worth caring for and preserving.

**Stormwater**
water that is the result of rainfall and other precipitation.

**Subgrade**
the prepared earth surface on which a pavement or the ballast of a railroad track is placed or upon which the foundation of a structure is built.

**Survey**
a tool used to collect information about a sample of a population in order to make guesses about the entire population

**Sustainability**
the quality of not being harmful to the environment or depleting natural resources, and thereby supporting long-term ecological balance. OR the long term continuation of a program or project.

**Tilling**
plowing land for the raising of crops.

**Tree canopy**
the amount of land covered by trees.

**Tributary**
a stream that flows to a larger stream or other body of water.
In 2010, the city of Baltimore was selected to receive a Cities of Service Leadership Grant. Through this program, funded by Bloomberg Philanthropies and the Rockefeller Foundation, Baltimore was able to hire a Chief Service Officer to develop and implement a plan for mobilizing volunteer resources to tackle some of the city’s most pressing needs.

A landscape analysis revealed that the following issues are most concerning to Baltimoreans: drug addiction, crime, and urban blight. Concerns about the city’s youth were also identified, as well as the enormous potential of youth to address the other identified needs as well.

As such, Baltimore created Baltimore CARES (Change Agents Reaching Empowerment through Service-Learning), as the fourth program under stepUP! Baltimore.

In collaboration with the Shriver center at the University of Maryland, Baltimore County, two pilot programs were launched in the fall of 2011. One engages staff and students of the William Donald Shaefer House in addressing specific needs in Baltimore City through service-learning curriculum modules.

The other, at Ben Franklin High School, is a multidisciplinary service-learning curriculum that engages students over the course of the school year in revitalizing a vacant lot near the school, in the Brooklyn neighborhood of the city. That pilot program is the basis of this curriculum, created and developed by Richard Blissett, the AmeriCorps VISTA who facilitated Baltimore CARES at Ben Franklin High School.

After development and implementation, the curriculum—along with any lessons learned—and the list of vacant lots identified by the City will be made available to schools across Baltimore interested in replicating the curriculum. Baltimore CARES will also facilitate support for schools desiring to replicate this program.

For questions or comments about Baltimore CARES, please email baltcares@gmail.com
Acknowledgements

It takes a village to raise a child, and it takes even more to figure out how to raise a community of children. This project could not have been done without the help of countless supporters.

The following people for their help in creating this program:
- Vu Dang, Baltimore’s Chief Service Officer, as well as Lori Hardesty, Clare Greene, and Michele Wolff from the Shriver Center at UMBC for their guidance and for conceiving this idea in the first place.
- Laura Kelly, the stepUp! Baltimore VISTA Leader, for her continuous support.
- Sam Pizzoferrato, the Baltimore CARES VISTA for the William Donald Schaefer House project, for being a partner in creating these curricula for our youth.
- Deborah Woolley, Benjamin Franklin High School’s Service-Learning and Learn-to-Work Coordinator, for providing consistent feedback and support for the program throughout the entire development process.

There were also those who helped in finding resources, reviewing the program, and offering inspiration to drive development. These people include: Dante DeTablan, Christopher Battaglia, Elizabeth Agyeman, Simon Birenbaum, Sandy Mason, Lyndsay Wilcox, Christine Kingston, Miriam Avins, Katie Dix, Tamara Barron, and many, many more.

Lastly, as educators, for all of the things we teach our students, we learn just as much from them. The following students were instrumental in creating this program: Kenny Berry, Zaniya Burns, Tavon Dempsey, A.J. Garnett, Kelsey Hamilton, Earl Jenkins, Rebecca Jones, Audris Pearson, Delonte Price, Trenishia Rawls, and John Thiess.