

## GARDEN LESSON PLAN: COMMUNITY

Many elements are interconnected and function together to create the natural and productive living system that is your garden. Look to the end of this activity guide for additional lesson plans, activity guides, and videos that can help you bring together soil, water, habitat, food, and community to explore your dynamic garden ecosystem.

**Subject Area:** Gardens, General Science

**Grade Levels:** Geared toward 6<sup>th</sup>-8<sup>th</sup> grade, but can be tailored for all grades

### **Essential Question:**

How can we leverage our experiences in our garden to positively impact our community?

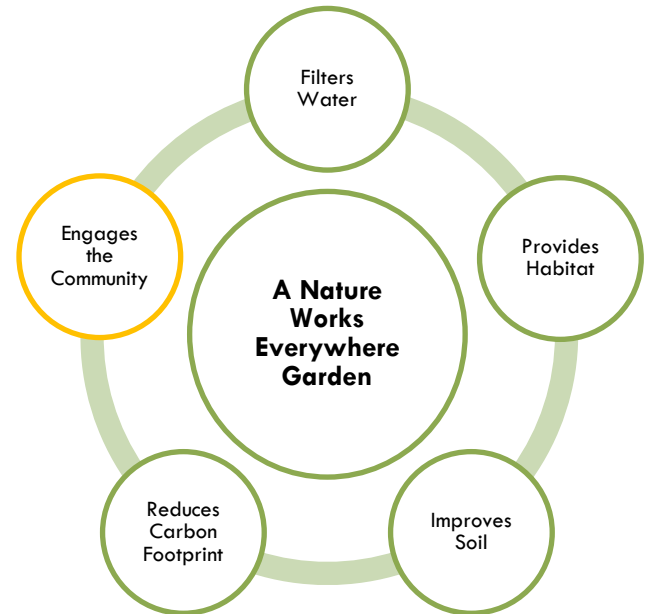
### **Purpose and Overview**

The purpose of this activity guide is to help students understand how their garden can benefit not just their classroom or their school, but also their entire community. This guide provides instruction on how to plan and execute a community outreach event in the garden, on data collection to help students evaluate impact beyond their school, and on service-learning ideas to apply knowledge learned from the garden to a community improvement project.

Students plan, create and participate in an outreach event to share some of the benefits of their school garden — educational, experiential, and material — with others in the community. They gather data to evaluate the impact of their event, and use this data to develop ideas for increasing community engagement and multiplying the effect of their school garden. Students then plan and execute a campaign to address a need, issue, or problem they have discovered in their community.

### **Time:**

This activity guide is part of an extended learning experience that engages students in creating and maintaining a school garden. The following are suggested time allotments for each section of the guide.



## Part 1

- **Engage:** one 45-minute class period
- **Explore:** one 45-minute class period for planning, plus preparation time and the time required for your outreach event
- **Explain:** two 45-minute class periods
- **Evaluate:** one 45-minute class period
- **Extend:** Allow at least one 45-minute for each of the activities suggested in this section of the guide.

## Part 2

- **Part A:** one to two 45-minute class periods.
- **Part B:** an extended service-learning project (two to four weeks).

### **Materials and Resources:**

#### **Nature Works Everywhere videos supporting this activity guide**

- Nature Works Everywhere: Curtis Bay Community Garden (<https://vimeo.com/81009949>) - middle school students visit a community garden in Baltimore

#### **Gardens How-to Video Series:**

- Nature Works – Global Gardens (<https://vimeo.com/77792707>)
- Planning Your Garden (<https://vimeo.com/91446626>)
- Building a Garden in a Day (<https://vimeo.com/91445078>)
- Caring for Your Garden (<https://vimeo.com/92520693>)
- Fears in the Garden (<https://vimeo.com/92531513>)

## Part 1

### *Materials for teacher*

- Computer with Internet connection
- School garden or other natural area on your school campus
- Digital camera/video camera for a visual record of your event
- Paper plates, utensils, napkins, serving bowls, and other supplies for serving food from the garden to those who attend your event (optional)

### *Materials for each student or group of students*

- Garden Project Notebook
- Poster board, markers, laminating material, signposts, staple gun, or other materials for creating garden signage
- Computer, printer, paper for creating handouts and flyers
- Presentation, demonstration, and activity materials as required
- Handouts listed below can be found here:  
<https://www.natureworkseverywhere.org/resources/activity-guide-community/>
  - a. Community Engagement Field Report
  - b. Community Engagement Evaluation

## Part 2

*Materials for each student or group of students*

- Colored pencils, markers, crayons or other writing utensils
- Pencil or pen
- Large sheets of white paper
- Map (download, purchase or hand-draw)
- Glue
- Tape

### **Objectives:**

#### **Part 1**

##### *Knowledge*

- Describe some potential benefits of your school garden for the people in your community.

##### *Comprehension*

- Identify methods for sharing the benefits of your school garden with people in your community.

##### *Application*

- Plan and participate in an outreach event that shares the benefits of your school garden with people in your community

##### *Analysis*

- Gather and analyze data on your school garden outreach event to evaluate its impact on your community, including feedback, observations, and personal impressions.

##### *Synthesis*

- Produce an assessment of your school garden outreach event and present ideas for increasing community engagement with your garden in the future.

##### *Evaluation*

- Identify and explain some ways in which your school garden engages and impacts people in your community.

## Part 2

##### *Knowledge*

- Describe similarities between an ecosystem and a human community.

##### *Comprehension*

- Map the human and environmental characteristics of your community and the location of community resources.

### Application

- Identify areas where human and/or environmental characteristics of your community need improvement.

### Analysis

- Determine a community need that can be addressed through a service learning public awareness campaign.

### Synthesis

- Plan and execute a service learning public awareness campaign that brings attention to a community need and motivates action for improvement.

### Evaluation

- Reflect on the effectiveness of your service learning project and assess its impact on your community.

### **Next Generation Science Standards:**

Note: Standards in Life Sciences and Earth Sciences apply to student presentations and signage prepared for your garden outreach event.

#### Disciplinary Core Ideas:

- ESS2.C The Role of Water in Earth's Surface Processes
- ESS3.A Natural Resources
- ESS3.C Human Impacts on Earth Systems
- ESS3.D Global Climate Change

#### Crosscutting Concepts:

- Patterns
- Cause and Effect
- Stability and Change
- Influence of Engineering, Technology, and Science on Society and the Natural World

#### Science and Engineering Practices:

- Asking Questions and Defining Problems
- Developing and Using Models
- Planning and Carrying Out Investigations
- Analyzing and Interpreting Data
- Using Mathematics and Computational Thinking
- Constructing Explanations and Designing Solutions
- Engaging in Argument from Evidence

#### Performance Expectations:

##### *Middle School*

Activities in this lesson can help support achievement of these Performance Expectations:

- **LS1-5:** Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.
- **LS1-6:** Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.

- **LS2-1:** Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.
- **LS2-2:** Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
- **LS2-3:** Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.
- **LS2-4:** Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
- **LS2-5:** Evaluate competing design solutions for maintaining biodiversity and ecosystem services.
- **ESS2-4:** Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.
- **ESS3-5:** Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.
- **ETS1-1:** Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.
- **ETS1-2:** Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
- **ETS1-3:** Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.
- **ETS1-4:** Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.

### **Common Core Standards:**

#### *6<sup>th</sup>-8<sup>th</sup> Grade Science and Technical Subjects*

- CCSS.ELA-Literacy.RST.6-8.3 Follow precisely a multi-step procedure when carrying out experiments, taking measurements, or performing technical tasks.
- CCSS.ELA-Literacy.RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context.
- CCSS.ELA-Literacy.RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context.
- CCSS.ELA-Literacy.RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g. in a flowchart, diagram, model, graph, or table).
- CCSS.ELA-Literacy.RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

### **Vocabulary:**

**Community engagement:** Promoting awareness of and involvement in a group's activities among members of a community.

**Community impact:** Measurable effects of a social condition, resource, or activity on individuals within a community.

**Community outreach:** Providing information and resources to benefit a community and improve quality of life for community members.

**Feedback:** Comments on and information about reactions to a concept, product, or event that can be used as a basis for evaluation and improvement.

## Part 1

### Background:

There are many ways that a garden benefits individuals and groups at your school and these are powerful experiences that can help students understand science, value nature, and value themselves. But those experiences become even more powerful when you extend the benefits of a garden to your wider community and focus on urban environmental stewardship. What are ways your students can creatively leverage their experiences in the garden to positively impact the community?

### Engage

1. Work with students to create a list of the benefits of their school garden. Prompt students to name:
  - a. **Ecological benefits** such as filtering rainwater, helping to improve soil quality, providing habitats for diverse species, and reducing CO<sub>2</sub> in the atmosphere.
  - b. **Material benefits** such as providing food and/or flowers and enhancing the landscape of the school campus.
  - c. **Educational benefits** such as helping students learn how a living system functions, how rainwater feeds the surrounding watershed, how the texture and composition of soil determine its fertility, how organisms interact within different habitats, and how plants and local food sources reduce CO<sub>2</sub> in the atmosphere, as well as helping them gain knowledge about different plants and animals, and helping them develop a variety of science and gardening skills.
  - d. **Experiential benefits** such as the good feelings that come from smelling the fragrance of a flower or a handful of healthy soil; hearing birdsong or the buzz of insects; watching a vegetable slowly ripen, then picking and tasting it with your friends; understanding how the garden grows and how to help keep it healthy; working together to care for the garden and make it a success; sharing your experiences with your community.
2. Ask students which of the benefits they have listed extend from their school garden into their local community. Help them recognize that nature works to extend the garden's ecological benefits to the local community, but that most of the garden's other benefits may be limited to a much smaller community made up of the students themselves. Explain that they will be working to extend these other (social) benefits to a wider community, so that their garden can benefit everyone.
3. Optional — show students the [Nature Works Everywhere: Curtis Bay Community Garden](https://vimeo.com/81009949) video (<https://vimeo.com/81009949>) as an example of how bringing people to your garden can extend its benefits to others in the community. Discuss some of the specific benefits that were shared by visitors to the Curtis Bay Community Garden. What did they learn? What did they experience? What did they do? What ideas and feelings do you think they took from the garden?
4. Discuss with your students different ways they can engage their community in the garden, how they will execute a community outreach event that brings visitors to their garden, and how they will collect data to measure the impact of this event. Distribute copies of the [Community Engagement Field Report](#) handout for students to keep in their Garden Project notebooks, or

use your notebooks directly to record ideas and collect data. Then have students work in small groups to brainstorm ideas for their community outreach event. Ask them to use the “Planning” outline provided on the Field Report sheet as a guide to developing ideas, and remind them to record their ideas in their notebooks.

Encourage your students to be creative – there are many ways to apply what they’ve learned in the garden and carry it to the community. The sky is the limit here! Explain that each group will present its event plans in a class discussion, so that the whole class can decide on the best ideas for sharing the benefits of your garden with people in your local community.

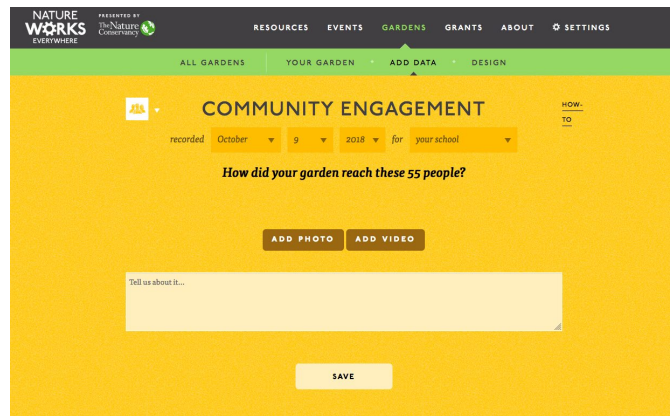
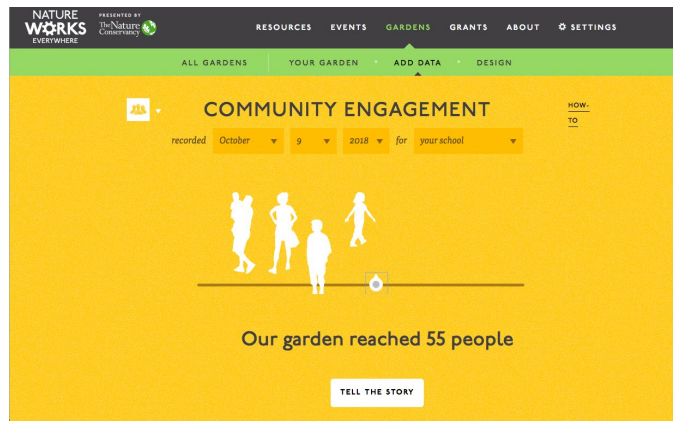
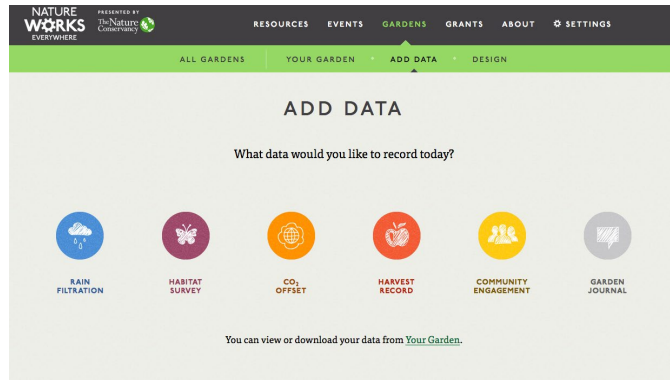
### **Explore: Planning Your Community Outreach Event**

1. Work through the “Planning” outline on the [Community Engagement Field Report](#) or use your own planning process. Have each student group present their ideas for how to engage and impact their community. When all groups have shared their ideas, guide a discussion in which students reach a consensus on the type of event or community engagement they want to do. This does not have to be a one time “event.” Think about ways to extend the benefits of your garden and impact your community continually. Use the discussion points below to help students translate their ideas into action steps for a successful event.
  - a. **Purpose:** Your goal is to share the benefits of your garden with others and make a difference in your community. What are the benefits you’ve experienced from the garden? How can you bring these benefits to your community? Which of the garden’s educational, experiential, and materials benefits are most meaningful to the students themselves? Which will be most interesting to a visitor? Consider also what students will be doing to share different benefits of the garden — for example, they can use signage, handouts, presentations, and demonstrations to explain the garden’s educational benefits; they can plan activities such as weeding, harvesting, volunteer days or a species safari to share the garden’s experiential benefits; and they can serve food from the garden or give visitors flowers to share its material benefits.

Students may also use event opportunities to understand community issues. Students can talk with event attendees about environmental issues they see in the community and think about solutions to those problems. See the Community Mapping exercise later in this guide to explore further.

- b. **Data Collection:** Explain to students that they will be recording data on their event at the *Nature Works Everywhere* website. Log in, then under Gardens, click Add Data and select the Community Engagement icon to show them the data entry screen (shown below).





**Note: Make sure you only post pictures and videos you have the rights to!**

Discuss with students how they will measure the number of people “reached” by their event. Why might this be an important figure to measure? Does this mean counting only the people who attend the event? Could it also include people who are made aware of the garden and its benefits through publicity? If so, how will students estimate the number of people “reached” through publicity for the event?

Point out that students will also record how they reached people in their community. The data collection tool allows you to upload photos and video (that you have rights to). Ask students how they can use this visual record to tell the story of their garden and its environmental impact. How can they extend their impact to the community over time? How



can this data collection help them measure their impact? How will you define impact? And how do you measure it? Some suggestions for how to measure impact include: recording how many people asked a question, how many stopped to read a garden sign, etc.

Also discuss how gathering feedback from those who attend the event can help students measure its impact. What questions might they ask? (Some examples: Did you learn something new? What was your favorite part? How likely are you to visit our garden again? How likely are you to tell others about our garden and what you learned here?) Have students consider different ways to gather feedback — by interviewing people at the event? By inviting people to send comments by text or email?

Again, encourage students to be creative! This is their opportunity to define how they impact the community and what that means to them.

- c. **Type of Event:** Encourage students to be creative as they share ideas for different types of events. In addition to a nature walk-style tour through the garden, they might consider a teaching meal prepared with food from their garden by a local chef; a county fair-style event where students show off their garden produce and gardening skills; a hands-on event where visitors learn about different flowers and the importance of pollinators as they create their own flower arrangements; a scavenger hunt event that gives visitors clues for collecting garden facts and specimens; or a garden revue where students perform skits and songs to celebrate their garden's benefits. As they debate ideas, guide students toward an event that is realistic in scope and within your budget. Also remind students that their event plan will need to be approved by your school administration.
- d. **Engagement:** Next, ask students for ideas on how they plan to engage visitors at the event. If time permits, view the segment of the [Garden in a Day](https://vimeo.com/91445078) video (<https://vimeo.com/91445078>) that explains the importance of signage and gives examples of different kinds of signs to display in a garden (at 4:13-5:03). Gather ideas for signage, then discuss how students might use handouts at the event. Suggest using a print-out of their garden design (on the *Nature Works Everywhere: Gardens* website) to create a handout map that will guide visitors through the event and inform them about the garden's main features. Refer back to the garden benefits that students plan to share with visitors and help them decide on presentations, demonstrations, and activities that will explain these benefits or help visitors experience them firsthand.
- e. **Publicity:** Once students have a rough plan of what they will do at their event, gather ideas for attracting visitors to the event through publicity. Remind students that publicity will reach many more people than attend their event and should make these people at least aware of the garden benefits they plan to showcase at the event itself. Have students give examples of advertising that previews an event (movie ads, video game ads, etc.) or shows a product's key features (car ads, cellphone ads, etc.), then discuss how students can use these techniques in their publicity to both inform people about their garden's benefits and motivate them to learn more by attending the event. If possible, work as a class to develop a consistent message for your publicity that can be adapted to different media — flyers, posters, a listing in your school calendar, a posting on your school website, and social media such as Facebook, Twitter, and texting (if these are appropriate for your students). You might also consider inviting a community leader to be part of your event (city council member, school board member, etc.) to help capture public attention.

- f. **Staffing:** By this point, students should have a fairly clear picture of the different tasks involved in staging their community outreach event. Have them form teams to develop the engagement and feedback tools they will need and to handle publicity, based on the roles they will play at the event itself. Review the roles listed on the Field Report sheet: Garden Guides greet visitors, show them around the garden, and answer questions; Presenters engage visitors with prepared presentations and demonstrations, or lead them in an activity; Data Collectors count the number of visitors, take notes on their reactions during the event, and gather feedback; Photographers and Videographers create a visual record of the event. Discuss any other roles specific to your event (e.g., chef, musician, singer), then have students volunteer for each role or assign them to the roles that best suit their talents.
  - g. **Date and Time:** Conclude by setting a date and time for your event, based on the school calendar, the growing cycle of your garden, and the amount of time students will require to prepare for the event. Remember to clear this date with school administrators before you being your publicity.
2. As students to work on preparations for the event, help them develop lists of materials, schedules, and task assignments to coordinate their efforts so they make steady progress. Plan to have students on your publicity team present their flyers, posters, and other creations to the class for feedback and approval, then help these students launch your publicity campaign on the school website and throughout the community. Plan also to have student Presenters practice their presentations, demonstrations, and activities so they will be prepared to perform effectively at the event. Similarly, students who will be Garden Guides at the event can work together to develop a set of talking points they will use to welcome visitors to the garden and explain its main features. Have your Data Collector team share their plans with the class to try out the feedback questions they will ask and describe the observations they will be making. One important question will be to ask visitors how they learned about the event, which will provide you with data to evaluate your publicity strategies. Data Collectors can also count how many people pass by your posters over a 15-minute period (poster traffic) to provide a basis for estimating how many people they reach.
  3. As part of your preparations, review your garden layout and presentation plans to confirm that your event will be accessible to visitors in wheelchairs or with other special needs.
  4. The day before your event, remind students that they will need to arrive early to help set up, and should plan to stay afterwards to help clean up. This is also a good time to ask students how many people they expect to attend the event, based on response they have received and the extent of their publicity campaign. Write their consensus estimate on the chalkboard for comparison after you count your visitors, and use this number to be sure you have enough handouts and other items that you will be providing to every visitor.

### **Explain: Measuring Community Engagement**

1. The day after your event, have students complete the “Assessment” section of the Community Engagement Field Report in class. Begin by having students rate the event based on their sense of visitor engagement and how effectively they communicated the garden’s benefits. Have students share their ratings in a class discussion, prompting them to give examples of

personal interactions or incidents that influenced their rating. Then combine their ratings to calculate a class average.

2. Next, have your Data Collector team report the number of people who attended the event. Discuss how this number compares to your students' forecast and what might account for any difference. Then use the information your Data Collectors gathered on how people learned about the event to estimate how many people you reached through publicity. For example, if 5% of attendees learned about the event from a flyer, you can use that number to estimate how effective the flyers were in drawing an audience. Use your poster traffic numbers to estimate how many people you reached with your posters, and ask your school webmaster for a count of people who saw your publicity in the school calendar and on the school website to estimate how many people you reached online. Have students add up these numbers and enter the total on the Field Report sheet, and then add this total to the number of people who attended to come up with the total number of people you reached with your event.
3. Work as a class to shape the story you will tell about your event when you enter your data on the *Nature Works Everywhere* website. Have your Photographers and Videographers share their visual record of the event and recommend the best photos and footage. Have Data Collectors report on their observations during the event and what they learned through their feedback questions. Encourage all members of the class to share their own observations and to talk about what went well during the event and what could have been improved. Again, be creative!
4. Conclude by having students complete the Community Engagement Field Report, which asks them to write a journal entry in their Garden Notebook telling the story of their event. Students can draw on their own impressions and recollections as well as the data collected by your feedback team, but they should try to evaluate the event in their stories as well as tell what happened.

## Reporting Your Data

When you are ready to report data on your event, take your students to the *Nature Works Everywhere* website and follow these steps:

- Log in, then click the Data Collection tab and select the Community Engagement icon.
- Enter the date of your event and use the slider to record how many people you reached with your event. Then click the "Tell the Story" button.
- Use the "Add Photo" and "Add Video" buttons to upload photos and video-clips from your computer to the website. Before uploading, please confirm that you have permission to post this content.
- Click in the "Tell us about it." text box and type or paste the story of your event. This could be a student's journal entry or a summary that you write based on your class discussion of the event.
- Click "Save," then click the Dashboard tab and scroll down to see how your event appears on the website.
- Finally, click the All Gardens tab at the top of the webpage and choose the Community Engagement icon to see how your school has contributed to sharing the benefits of a school garden with communities across the country.

## Analyzing Your Data

1. Have students work collaboratively to organize and analyze the information gathered by your Data Collectors. They can, for example, create visual displays comparing the effectiveness of different presentations based on the Data Collectors' observations of visitor reactions, tally of questions asked by visitors, and visitor response to feedback questions. Working in this way, students should be able to measure the impact of various aspects of the event and come to some assessment of their success in educating visitors about the garden's benefits and engaging them in the gardening experience. To add an extra dimension to this analysis, students can interview people who attended the event several weeks later to find out how their impressions may have changed over time and what aspects of the event they remember most vividly.
2. When their data analysis is complete, have students discuss improvements they could make for their next event. What parts of the event did not have the impact they had hoped for? What parts may have been more effective than they expected? Was there something missing? Encourage students to draw on their own impressions as well as their data analysis for ideas on how they could stage an even more engaging community outreach event next time.
3. Explain to students that the data they have collected along with their stories and visual record of the event all help to build up a garden portfolio that they and future classes can use to connect with student gardeners at other schools and gardeners in your community. This portfolio can also be useful for publicizing your school garden program through articles in local newspapers and presentations to your PTA/PTO and local gardening and environmental organizations.

## Evaluate

Use the [Community Evaluation](#) student handout to evaluate what your students have learned. See the scoring key below.

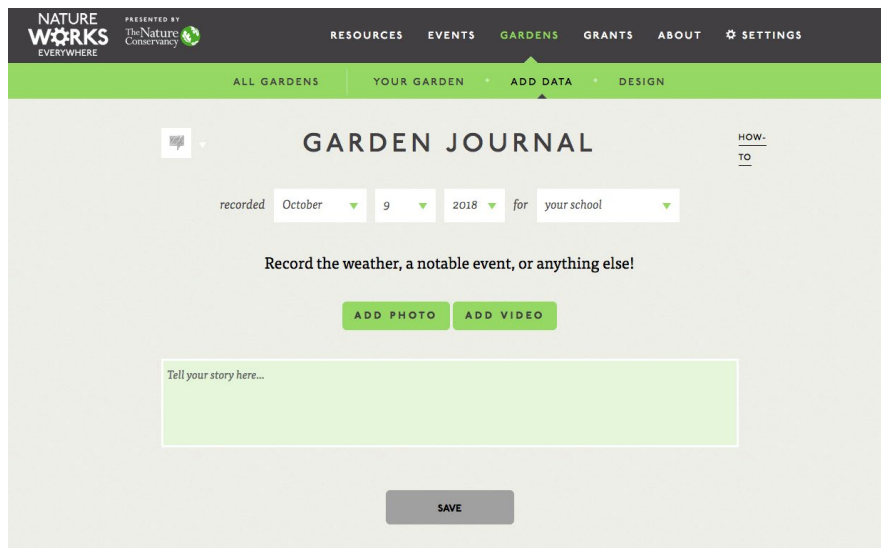
### **Scoring Key for Evaluation**

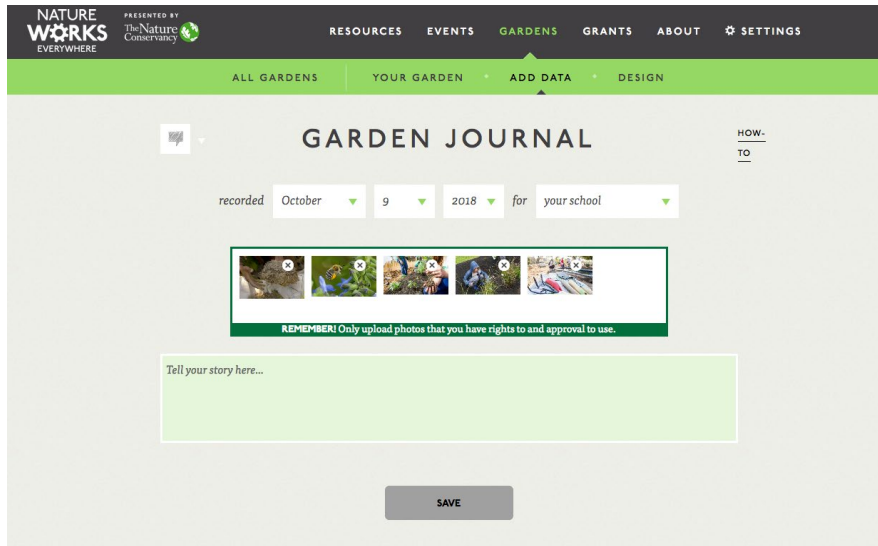
1. Describe some benefits of the school garden that you can share with others.  
Educational benefits such as learning how nature works in the garden, gaining knowledge about different plants and animals, and developing a variety of science and gardening skills; experiential benefits that come from working in and enjoying the garden; and material benefits such as food and flowers.
2. Give examples of how you can inform people about the benefits of your garden in an engaging way.  
Answers could include signage, presentations, demonstrations, and activities, as well as different forms of publicity.
3. Describe how you participated in your school garden community outreach event.  
Answers will vary, but students should be able to describe how they contributed to preparations for the event and the role they played at the event.

4. Give examples of data you can collect to measure the impact of a community outreach event. Answers could include a count of attendees at the event, an estimate of people reached through publicity for the event, observations of attendee reactions during the event, and attendee feedback.
5. Present an assessment your school garden event based on data and your personal impressions. Answers will vary, but students should include at least one data-based measurement of the event's success in their assessment.
6. Why is it important to share the benefits of your garden with others in your community? Answers will vary, but students should recognize that sharing the garden with others helps people connect more with nature, resulting in increased awareness of the need to protect and preserve it, and sends the message that doing so is an important part of a vital and healthy community.

### **Your Garden Journal**

The Nature Works Everywhere online platform allows you to continually share your garden activities, events, news, thoughts and questions with an online community of other gardeners across the country. Use your Garden Journal to share status updates and what's currently happening in your garden, post photos and videos (that you have rights to), and connect with other educators and students. Compare and contrast what's happening in your garden with other gardens, and share with other educator's lesson plans, websites, and other resources that are helping you use the garden as an outdoor learning lab.





## **Part 2**

### **Map Your Community**

Now that your students have successfully led events to engage the community in the work you are doing in the garden, it's time to take it a step further. How can your school make an impact on your community? How can they apply what they have learned about nature in their garden to the community at large? What can they do to improve the community?

To extend the learning experience, use the following service learning activity to map your community and develop a campaign or action plan to address environmental issues, applying what you have learned from the garden to improve your community. By mapping your community, students can learn the geography of their area, determine areas of need for people and nature, and identify resources that may support efforts to meet urban conservation and community needs.<sup>1</sup>

### **Part A — Mapping and Identifying Needs**

- a. **Observe Your Community:** If you have involved your community in the garden, you and your students will likely have built relationships and have a general understanding of some of the challenges your community may face. Share with students that the purpose of this exercise is to map their community and identify challenges so they can develop an action plan to address one of these challenges. Ask students what challenges they are aware of in the community. Where are these happening? Why are they happening? How are they

---

<sup>1</sup> This activity is modified from the Jane Goodall Institute's [Roots and Shoots](http://www.RootsAndShoots.org) program (www.RootsAndShoots.org). This is a youth-led community action and learning program that builds on the legacy and vision of Dr. Jane Goodall to place the power and responsibility for creating community-based solutions to big challenges in the hands of young people. Through the program, young people map their community to identify specific challenges their neighborhoods face, prioritize the problems, develop a plan for a solution, and take action. For more information and support, visit [www.RootsAndShoots.org](http://www.RootsAndShoots.org)

connected to the community environment (urban, rural, etc.)? What kind of systems are these challenges a part of (natural, political, geographic, etc.)?

- b. Ask students to think about the different environmental themes they have been learning in their garden: Water, Soil, Habitat, Carbon and Food, and Ecosystems. How does your community, like the garden, model an ecosystem? For example, what does an urban habitat look like? How do water, soil, and food relate to each other in your community? You can go big with this and extend beyond just the water, food, soil and habitat you've been learning about in the garden. Where do your water and food come from? How do the pieces of your community fit together and operate as a system?
- c. Prepare Your Map: Start by drawing (with your students), downloading, or purchasing a map of your area. Choose a specific radius around your zip code – two to five miles is usually sufficient. If you are using a map you have purchased, you can use a compass to draw your radius directly on the map.
- d. Optional: For more of a challenge, start with a blank sheet of grid paper and see if you can draw your community from memory. How is your community oriented – to the north, south, east, west? What are the major landmarks or points of interest in your community?
- e. Once you have your map prepared, start to mark your community's basic environmental and human characteristics. You can use different colored stickers to indicate which of the marks are human and which are environmental.
  - Human characteristics include your home, your school, major streets or routes that run through your radius, areas that are important features such as community centers, libraries, etc.
  - Environmental characteristics include your garden, other school or community gardens near you, any wild space (parks or preserves), forested areas, bodies of water including lakes, rivers or oceans, wetlands and any other environmental features in your area that you feel are important (mountain ranges, beaches, etc.).
  - Also think about and mark areas that may be human-centered but are related to the environment or provide environmental services. This could include water and sewage treatment plants, recreation parks, gas stations, recycling centers, local environmental organizations, landfills and waste management sites, etc.

Ask students how they think these characteristics are separate and how they are connected. For example, a park or community garden provides benefits for people, but also has real ecological benefits for nature and wildlife. Can all of your human characteristics be considered environmental ones as well? If the answer is yes, ask students to explain how. If the answer is no, have students construct an argument for this.

- f. Next, have your students mark areas or places on the map where they can find resources. This might include where you get your food (grocery stores, farmer's markets, etc.), hospitals, shelters, and nearby power sources (coal fired or nuclear power plants and wind, water, solar, or geothermal energy sources).
- g. Now use your map to reflect on and analyze your community. You can use the following points to guide your students' discussion:



- Identify qualities about your community that make it a great habitat for people.
- Identify qualities about your community that make it a great habitat for animals and nature.
- Is your community meeting the basic needs of the people and environment? Is your community environmentally sustainable?
- Identify areas of improvement for your community: what is one quality your community could improve to make it a better place for people? For nature? For animals?

## **Part B — Campaign and Action Plan**

The process of involving the community in your garden and completing the community mapping exercise will likely lead to discovering many needs that students would like to address as part of a service learning campaign. In this next step, students will need to prioritize these needs and agree on one need to take action on.

- Choose a decision making process with your students to rank and prioritize your community needs.
  - If you have many different ideas and interests in the group, you can do a blind group vote. Write the campaign ideas on the board or sheet of paper and instruct students to close their eyes as you read off each idea for a vote. Inform them that they may vote 3 times to narrow down the list of needs – they can vote for 3 separate needs, or place all 3 votes on one need. Use their votes to narrow your list down. You can repeat the process, this time allowing only one vote per student, to choose one community need you will address as a group.
  - If students and group members are comfortable with sharing what they think and having a healthy debate, you can follow this same process without closing eyes.
  - Another approach is to break the class into groups and have each group lobby for a need. Break the class into groups and ask them to pick a need they can all agree on to discuss and lobby for together. Give them time to discuss the need and construct an argument to present to the rest of the class. Have each group present their argument to the full class, and then follow one of the voting methods above to choose a “winner.”
- Once you have decided together which community need you want to address, use the campaign planning worksheet at the end of this guide to help organize your thoughts and actions. Planning a campaign can be extensive, so use the worksheet to keep track of important details and refer to the document along the way. Complete the guide as a class or in small groups.
- Now execute your campaign! Remember to reflect on the campaign at the beginning, middle, and end. Reflection allows students to think about and communicate the significance of the campaign. Also remember you can share what you are doing with the Nature Works Everywhere online community by posting pictures, videos, and reports online at [www.NatureWorksEverywhere.org](http://www.NatureWorksEverywhere.org). **Only upload photos and videos you have the rights to!** Celebrate your campaign successes and reflect on how you’ve impacted your community.

## **Extend – Further Investigations**

1. Continue to plan and host different types of garden events with your students throughout the school year, and record data from these events at the *Nature Works Everywhere: Gardens* website. Every event can help to engage more people in your community and extend the reach of your garden's impact. For inspiration, revisit some of the different ideas that students proposed while planning your first event. Suggest to students they notice how other community groups engage the community. And stay creative! There are many ways to engage and impact your community.
2. Turn your garden into a service learning opportunity by planning an event in cooperation with a local senior center, daycare center, or hospital. If your audience can't come to you, work with your students to create a portable garden event—for example: bring plants in pots and specimens of garden organisms like earthworms for a presentation on your garden's habitats; bring a pot of garden soil and a pot filled with material that represents impermeable surfaces to demonstrate how your garden filters water.
3. Contact your local university to inquire about having a horticulturalist, soil scientist, environmental scientist, or agriculturalist take your students on a tour of their own garden to explore its ecology with an expert eye. You might also arrange for your class to visit a university garden or greenhouse, or contact your local Garden Club to arrange a field trip to outstanding gardens in your area.
4. Keep your Community Engagement portfolio up-to-date and use it when approaching community groups, local businesses, and national organizations for funding and resources to help you maintain and expand your school garden program. Remember: Be creative! This is the story of your school garden, with data to show how the garden impacts not only students but families, friends, and others throughout your community.
5. Build on your garden event by working with parents and PTA members to set up a garden volunteer "tree" of adults who will care for the garden over school breaks and summer vacations. In addition to students' parents, you can look for volunteers from a local Garden Club and from businesses that allot days for employee community service. You might also work with a local summer camp to arrange for maintenance when they are in session.
6. Explore the possibilities for establishing connections between your school garden and local farms by participating in the USDA's "Farm to School" program, which aims to build relationships between schools, families, and farmers. Visit [www.farmtoschool.org](http://www.farmtoschool.org) for more information.

## **Additional Resources and Further Reading**

- For further resources and support for your community mapping and campaign project, visit [www.RootsAndShoots.org](http://www.RootsAndShoots.org)
- Nearly all states and the District of Columbia have an Extension Master Gardener (EMG) program that trains volunteers who bring expertise and research-based gardening information to local gardeners. To contact the EMG program coordinator in your state, see the listing at [articles.extension.org/pages/9925/state-and-provincial-master-gardener-programs:-extension-and-affiliated-program-listings](http://articles.extension.org/pages/9925/state-and-provincial-master-gardener-programs:-extension-and-affiliated-program-listings).