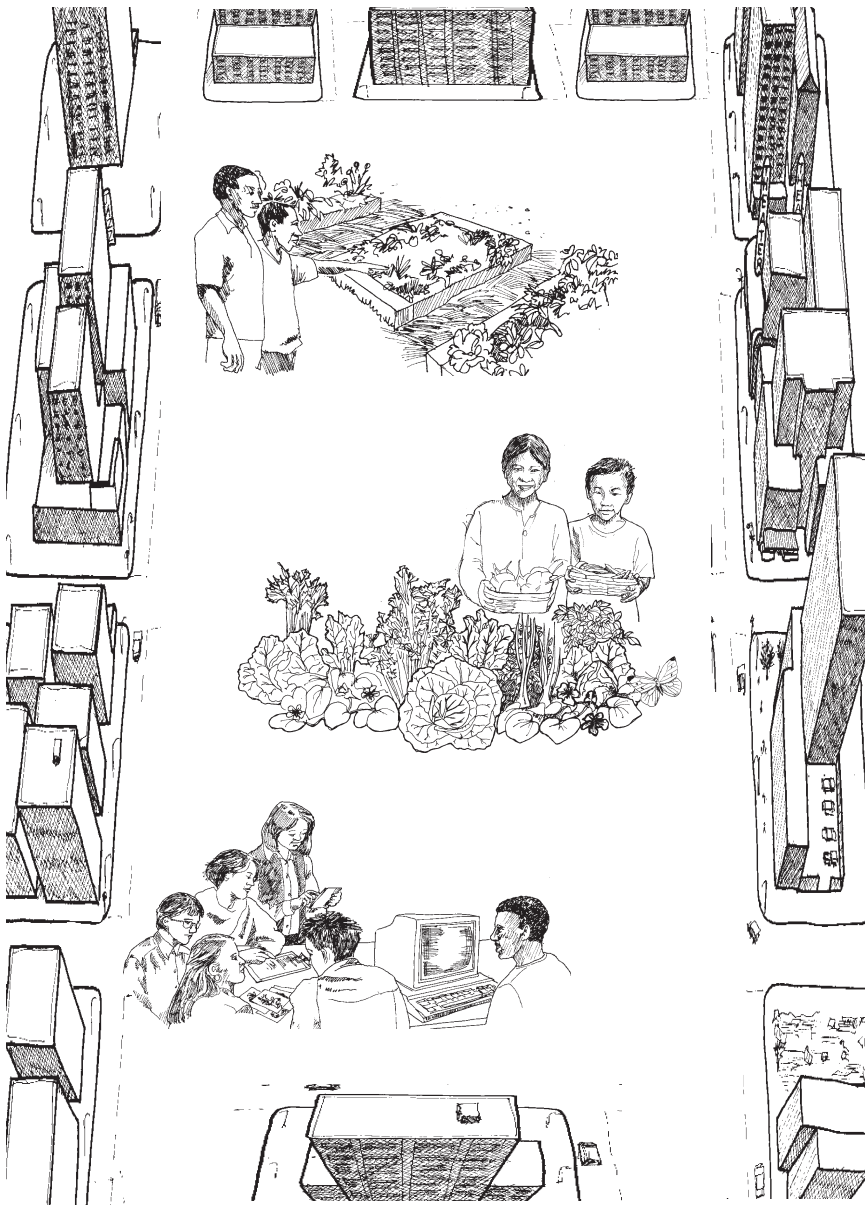


# Garden Mosaics Overview

Read this Section for an overview, or “Executive Summary,” of the Garden Mosaics program.



Action

Cultures

People

Science

## Garden Mosaics in a Nutshell

### *The Who? What? Why? Where?*

### *When? How? of Garden Mosaics...*

**Who?** Anyone interested in gardening, cultural traditions, or enhancing communities, including youth, gardeners, educators, volunteers, and the general public.

#### **What?**

- **Youth Program.** A science education program that combines *intergenerational mentoring, community action, and understanding different cultures.* Youth learn from elder community members, who share their gardening practices, cultural backgrounds, and wisdom about their community. Youth also learn from the Garden Mosaics educational resources and activities.
- *i-m-science investigations.* International online databases focusing on community gardens, gardeners, neighborhoods, and urban weeds. Anyone can contribute to the *i-m-science databases.*
- **Educational Resources.** Free online Science Pages and stories about gardens, gardeners, and communities. Also available in print form.

**Why?** Garden Mosaics addresses issues related to science education, youth and adult well-being, cultural understanding, and sustainable communities and agriculture.

**Where?** Activities take place in community gardens, neighborhoods, home and school gardens, and indoors. Youth participants are from community centers, camps, home schools, classrooms, and science enrichment, job skills training, intergenerational, service-learning, and environmental education programs. Any adult or youth can participate in the *i-m-science investigations* and use the online resources.

**When?** Activities vary in length. Spend a few minutes viewing a Science Page, or a few hours conducting an *i-m-science investigation.* Or lead a group of youth in a longer-term project combining many activities.

**How?** Educators and volunteers use the *Program Manual, Science Pages, i-m-science databases, Interactive DVD,* and other print and web resources to conduct youth and classroom programs. Educators also may attend regional workshops. Any interested individual can use the online Science Pages and conduct the *i-m-science investigations* using the online instructions.

**A final note.** Garden Mosaics is flexible—feel free to use our resources and adapt them for youth, adult, and intergenerational programs, and for your own learning. Or help others learn about gardening and communities, and publicize your own activities, by contributing to the *i-m-science databases.*

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## Welcome to Garden Mosaics!

Welcome to the *Garden Mosaics Program Manual*. The bad news is the *Program Manual* is long. The good news is you don't need to read it all to learn about Garden Mosaics. Read this Overview for an introduction to our program, and then go to the Sections and Chapters that are most useful to you.

*Garden Mosaics welcomes participants from all countries throughout the world.* Some of our resources are available in Spanish, and we currently are translating parts of this manual into Arabic and Russian. If you speak limited English and would like to inquire about participation in Garden Mosaics, please contact us at [gardenmosaics@cornell.edu](mailto:gardenmosaics@cornell.edu). We can respond to inquiries in Spanish, French, Arabic, Russian, German, and other languages.

## Garden Mosaics Mission

*Connecting youth and elders ...  
to investigate the mosaic of plants,  
people, and cultures in gardens,  
to learn about science,  
and to act together to enhance  
their community.*

## Our Name

Garden Mosaics refers to two beautiful mosaics found in community gardens. First are the gardeners, who represent a mosaic of cultures from around the world. Second are the mosaics of plantings that these gardeners create.

## Our Core Values

**Garden Mosaics is:**

- **Science...** *asking questions, observing, interviewing, recording data, and using the Internet to learn about science.*
- **People...** *elder gardeners sharing their knowledge with youth and youth helping elders.*
- **Cultures...** *learning about the connections between plants, planting practices, and cultures from all over the world.*
- **Action...** *enhancing gardens and the neighborhood.*

As an educator or interested individual, you are welcome to conduct a long-term Garden Mosaics program or to use individual resources and activities to meet your needs. Regardless of how you use our resources, keep in mind these four Garden Mosaics core values.

## Our Goals

Garden Mosaics seeks to:

- Create a set of resources and activities that combine science learning, intergenerational mentoring, cultural understanding, and community action, and that can be used flexibly by educators, youth, and individuals.
- Develop a model educational program that integrates the “local knowledge” of gardeners with the scientific knowledge of researchers, and that combines civic and science education.

## What Do Garden Mosaics Participants Do?

Garden Mosaics can be conducted as a youth or gardening program or as an individual activity. Youth programs can choose from the entire suite of resources and activities, whereas gardening programs and individuals will find the *i·m·science investigations* and Science Pages most useful.

### Garden Mosaics Mission

*Connecting youth and elders ...  
to investigate the mosaic of plants,  
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their community.*



## *i-m-science investigations*

*i-m-science investigations* entail using interviews and observations to collect data, and reporting your findings to our online *i-m-science databases*.

Why the name “*i m science?*”

*i-m-science* means ***I Am Science***. Youth and community members can contribute to science in important ways.

*i-m-science* means ***Information Mosaics*** science. The small “i” has become a universal symbol for information. The “m” refers to the mosaics of plants, planting practices, people, and cultures in community and other gardens.

Finally, *i-m-science* means ***International Mosaics*** science. We invite youth, gardeners, and volunteers from all over the world to share their knowledge of plants and growing practices, and of the role gardens play in their communities.

Through sharing the results and photos of your *i-m-science investigations* using the online databases, you are helping to create a beautiful website that is used for education and research. You also can work with Garden Mosaics to post the database reports from your city or region on your own website.

Through conducting *i-m-science investigations* with elder gardeners, youth form positive relations with local role models. They also develop interviewing, observation, and data recording skills, and make important contributions to their community.

The four *i-m-science investigations* are Gardener Story, Community Garden Inventory, Neighborhood Exploration, and Weed Watch.

### ***Gardener Story***

Participants develop an oral history and take photographs illustrating a gardener’s planting practices and “planting tips,” and the connections between those practices and the gardener’s culture. The gardener can be from a community, home, or school garden. The Gardener Stories provide a rich educational resource for visitors to our website.

### ***Community Garden Inventory***

Participants take a walk through a community garden with an experienced gardener. They ask the gardener questions and make their own observations about the plants, structures, and activities in the garden. They can use our online *Community Garden Inventory Form* to catalog a single garden or all the gardens in their city. This *i-m-science investigation* also can be conducted in school gardens that include community involvement.

### ***Neighborhood Exploration***

Participants use aerial photographs, maps, and a walk to explore their neighborhood. They learn where besides the garden people can find fresh food and places for talking with friends, relaxing, enjoying nature, and cultural and educational events. They then produce a neighborhood collage using photos and maps, and share their results online using the *Neighborhood Exploration Form*.

### ***Weed Watch***

Participants survey weeds in urban home, community, or school gardens, and catalog the methods gardeners use to control weeds. Cornell scientist Antonio DiTommaso is using the Weed Watch data to develop an environmentally-sound weed control program for urban vegetable gardens.



## Science Pages

While interviewing elders in the gardens, you may encounter unfamiliar plants and growing practices. You can use the online or print versions of Science Pages to learn more yourself and for teaching purposes. For example, you can use the Science Pages to help participants understand the concepts behind what they see in the garden, either during “teachable moments” in the garden, or before or after the *i-m-science investigations*. Alternatively, you can use the Science Pages to reinforce important topics in classroom teaching or environmental education programs. Or you can laminate the pages and post them in a garden. English and Spanish versions are available in color and downloadable black and white format on the website. Check the Garden Mosaics website for new pages and information, including how to obtain color print Science Pages, and translations into additional languages.

## Action Projects

Youth conduct an Action Project to help the gardens and their community. Action Projects can be related to Art in the Garden, Food Systems, Garden Design, Garden Enhancement, Garden Research, Land Use, or Nutrition and Health. Youth submit the online *Action Project Form* to share their accomplishments with others. Action Projects often serve as the culmination of a longer-term Garden Mosaics program, but they can also be conducted as stand-alone projects.

## Short Activities

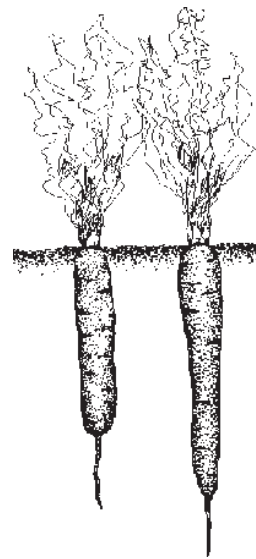
Garden Mosaics includes a number of short activities that can be used alone or incorporated into longer-term programs. These activities take place inside or in the garden.

- *Ice-Breakers* help the youth get to know each other.
- *Hands-on Gardening* gives youth a chance to get “their hands dirty.”
- *Inquiry Activities* help youth learn about plants and ecosystems.
- *Assessment Activities* provide fun ways to discover what youth are learning.

## Achieving Your Goals through Garden Mosaics

Garden Mosaics is designed to be used in different ways by different people.

If you **work with youth in community settings**, you can conduct a Garden Mosaics *youth program* using our online, print, and electronic resources. Youth can start their program by conducting several Ice-Breaker, Hands-On Gardening, or Inquiry activities. Next they can conduct *i-m-science investigations* and contribute to the *i-m-science databases*. To enhance what they learn from elders and from observations during the *i-m-science investigations*, youth read about plants and science concepts, and conduct the short activities described on the Science Pages. The Action Projects give youth a chance to apply everything they have learned to help their community. You can also use the Action Projects to motivate youth who are not interested in science to participate in the more “sciency” parts of the program. *Start by going to Section III: Garden Mosaics in Youth Programs and Schools, in this manual.*



If you are a **teacher**, you can use the Science Pages and *i-m-science databases* to enhance *classroom learning*. If you have more time, you can conduct Inquiry Activities, *i-m-science investigations*, and Action Projects. Note that we have included inquiry and content learning objectives, and assessment suggestions, for each *i-m-science investigation*. *Start by going to Section III: Garden Mosaics in Youth Programs and Schools.*

If you are a **gardener or other adult or youth interested in promoting environmentally-sound agriculture and sustainable communities**, you can participate in the *i-m-science investigations*. You will collect data from gardeners and other community members, and contribute your findings to online databases. The information you collect will be used to help researchers and community activists, and as an educational resource for others. *Go to Section IV: i-m-science.*

If you **run a gardening education program** such as Master Gardeners, you can use the Science Pages to help your audiences learn about plants and planting practices. Or have your gardeners contribute to the *i-m-science databases*. Alternatively you may have volunteers who want to conduct Garden Mosaics programs with youth. *Go to: Section VI: Science Pages, Section IV: i-m-science, or Section III: Garden Mosaics in Youth Programs and Schools.*

If you are **traveling to another country or region**, consider talking with a gardener or small-farmer and sharing their “Gardener Story” online. Or describe a community garden using the online “Community Garden Inventory.” *Go to Section IV, Chapter 1: Gardener Story, or Chapter 2: Community Garden Inventory.*

If you simply **want to learn about plants, gardeners, cultures, and the environment**, browse through our online Science Pages and *i-m-science databases*. *Go to Section VI: Science Pages. Or go to [www.gardenmosaics.org](http://www.gardenmosaics.org) and click on Science Pages. Also click on i-m-science to learn about interesting gardeners and gardens.*

If you are a **program developer or researcher**, or are simply **curious about the background and outcomes of our program**, you can read about our program philosophy and research. *Finish reading this Section and then go to the overviews for various Sections and Chapters. Also, go to [www.gardenmosaics.org](http://www.gardenmosaics.org), click on About Us, Research and Evaluation. Contact Garden Mosaics if you have questions or are interested in collaborating with us.*

## What We Are NOT

Garden Mosaics is NOT a how-to gardening program. Our activities work best for youth and others who already have some interest and experience with gardening, or as part of a hands-on gardening program. For educators working with youth who have had no exposure to gardening, we have provided several short, hands-on gardening activities in Section III, and gardening education resources in Section VII.

## What Is Unique about Garden Mosaics?

### **Science, People, Cultures, Action.**

Garden Mosaics integrates science education with intergenerational mentoring, cultural understanding, and community action.

### **An Educational Program ... an Educational Website.**

Garden Mosaics provides education at two levels. On the one hand, youth and adults learn through conducting the Inquiry Activities, *i-m-science investigations*, and Action Projects. At the same time, the stories and data they contribute to the website become important educational tools for others.

**Flexible/Free.** Garden Mosaics provides a set of resources that can be used in any number of ways—from year-long youth programs to “free-choice learning” by youth or adults in their home. Many of the resources are available for free online.



**Local Role Models.** Youth participating in Garden Mosaics learn from and form partnerships with elders in their own community. These elders serve as positive local role models. The youth also help the elders through their Action Projects.

**Integrating Local and Scientific Knowledge: *i-m-science* and Science Pages.**

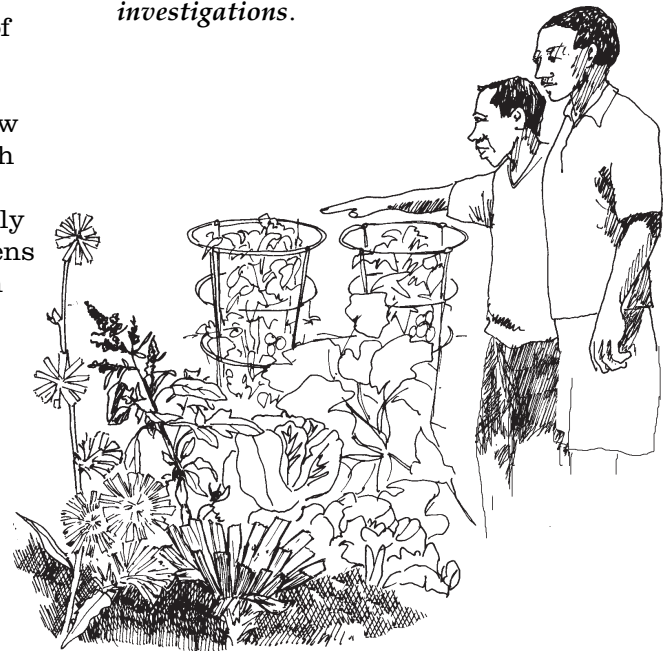
Garden Mosaics is unique as an educational program in that it integrates the local knowledge of elders and scientific knowledge. For example, if you go to our *i-m-science databases*, you will see Gardener Stories that document the local knowledge of elders. These gardeners have a wealth of knowledge not otherwise available to youth and the general public. While reading the Gardener Stories, you will notice some underlined names of plants and planting practices. When you click on the underlined text, you link directly to a Garden Mosaics Science Page that describes what scientists know about the plant or practice.

**New Approaches to Citizen Science.**

Citizen Science refers to research projects that use data collected by lay persons. The Cornell Laboratory of Ornithology is a pioneer in the Citizen Science movement. Its scientists have used observations collected by thousands of volunteer birdwatchers to help us understand how to conserve birds. Garden Mosaics has added several new dimensions to Citizen Science through our *i-m-science investigations*. First, *i-m-science* is unique in that we not only collect observational data about gardens and plants, but also information from people—i.e., the gardeners and other members of the community.

Furthermore, our *i-m-science investigations* are designed not just with scientists in mind. For example, the Community Garden Inventory is a collaborative effort with the American Community Gardening Association, which plans to use the data to document the benefits provided by community gardens. The Gardener Story and Neighborhood Exploration are designed primarily to collect information that can be used in educational programs, and by gardeners and other interested adults. The Weed Watch data will be used by scientist Dr. Antonio DiTommaso to help him design environmentally-sound means of urban weed control. In addition to these uses, all the *i-m-science databases* are posted online where they become an integral part of the Garden Mosaics educational website.

**Participatory.** Garden Mosaics invites you to participate at many levels. When you contribute to the *i-m-science databases*, you are helping to create the unique educational Garden Mosaics website. In return, we can help you to post the Gardener Stories and other *i-m-science database* reports from your city or region on your own website. Feel free to contact us to suggest new topics for Science Pages or *i-m-science investigations*.



## Garden Mosaics Resources

**Website.** The Garden Mosaics website is designed as a free educational resource. Includes over 35 Science Pages in English and Spanish and the complete text of the *Program Manual*. Also includes instructions, forms for posting data, and results of the *i-m-science investigations* and Action Projects.

The resources listed below are available for sale or for free. Check the Garden Mosaics website for ordering information.

**Program Manual.** The illustrated *Garden Mosaics Program Manual* includes instructions and forms for a variety of activities, *i-m-science investigations*, and Action Projects. Black and white Science Pages, and information useful for community educators, teachers, and individuals conducting Garden Mosaics in different settings also included.

**Promotional DVD or Video.** An 11-minute inspirational film that captures the essence of what Garden Mosaics youth programs are all about. Available in DVD or video format.

**Interactive DVD.** An interactive DVD with live footage of educators conducting the *i-m-science investigations* and other activities with youth. Also includes the Program Manual text, forms, and many other resources.

**Science Pages.** Attractive, illustrated fact and activity sheets about plants, planting practices, and other science topics. Color Science Pages can be viewed online or purchased. Black and white versions with additional information and activities available online and in the *Program Manual*, or can be printed off the website. Available in English and Spanish. A subset of Science Pages available in Arabic.

**Posters, Signs, Brochures.** Posters suitable for hanging on walls of schools, community centers, homes, and offices. Signs for posting in gardens. Brochures to publicize your Garden Mosaics programs.

**Illustrations.** If you are an educator working at an organization with limited funds, we may be able to help you to produce educational materials. For example, you are an international NGO and produce educational materials but don't have enough money to hire an illustrator. Contact us and we may be able to share some of our illustrations free for educational use.

For more information on how to access these resources, contact:

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