Growing Together: An Accessibility Guide for Pennsylvania Growing Spaces

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Introduction

Community growing spaces are powerful tools for connection, sustainability, and resilience. They bring people together, combat food insecurity, and reclaim land in ways that benefit local communities. However, these spaces are often not designed with accessibility in mind, making them difficult to navigate, maintain, and unintentionally creating barriers for people with access needs, including elders/seniors and disabled individuals. Everyone should have the opportunity to participate in community gardening, regardless of disability, age, mobility, or access to financial resources.

This toolkit provides practical strategies and recommendations to ensure that community growing spaces are accessible to all. Accessibility is not just about compliance with regulations - it is about creating spaces where everyone can fully participate, contribute, and feel welcome.

What Do We Mean by Accessibility?

When we talk about accessibility, we mean reducing barriers to ensure that all people can fully participate. Accessibility goes beyond physical access—it also includes financial, social, sensory, cultural, and cognitive factors that influence who can engage in a growing space. Universal design is an approach to creating environments that are usable by as many people as possible, without the need for individual adaptations or specialized accommodations. By prioritizing flexibility, ease of use, and inclusivity from the start, universal design ensures that gardens and community spaces are welcoming and accessible to all.

Many accessibility barriers impact a wide range of people, including older adults, people with chronic illnesses, people who use mobility devices, those with sensory sensitivities, queer people, children, non-English speakers, those with limited financial resources, and many more. By considering these diverse needs, we create gardens that are welcoming, inclusive, and usable for everyone.

How to Use This Guide

This toolkit is organized by key topic areas - such as pathways, tools, seating, and sensory inclusion - and offers a range of solutions that can be adapted to different gardens, budgets, and community needs. Whether you are designing a garden from the ground up or making small modifications to an existing space, you will find recommendations for implementing universal design principles.

Start with your community! While this guide includes broad recommendations, the best way to ensure accessibility is to talk with the people who will be using the space. What works in one garden may not be the right fit for another. The most important step is to listen, adapt, and make changes that center the experiences and needs of your community members.

Recognizing the expertise of disabled people is essential to making meaningful improvements. Not everyone is an expert on accessibility, and that's okay! The goal isn't to create a 'perfect' space—it's to foster an inclusive environment that evolves based on real experiences and feedback. Trying to solve every problem in advance can add unnecessary stress for staff and volunteers and might unintentionally take away people's ability to decide what support works best for them. Instead, prioritize collaboration by allowing disabled community members provide input into how to best modify spaces for easier access.

About This Project

This toolkit was developed through a collaborative process, incorporating insights from gardeners, growers, disability advocates, and accessibility experts. It is based on a review of existing best practices and direct input from those with lived experience navigating barriers in growing spaces.

This project was funded by the Pennsylvania Developmental Disabilities Council and coordinated by the Institute on Disabilities at Temple University.

We hope this guide will serve as a practical resource for creating more inclusive, welcoming, and accessible community growing spaces across Pennsylvania and beyond.

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Creating Inclusive and Welcoming Communities

Section Summary

This section offers tools and strategies for building a garden culture that actively includes and values people of all abilities, especially members of the disability community. It covers ways to strengthen community, reduce participation barriers, and ensure everyone feels respected, safe, and welcome.

- **Build Strong, Inclusive Communities** – Foster connection through scheduled workdays, group outings, social events, and open communication. Offer mentorships, recognize contributions, and invite members to bring their unique strengths to the garden.
- **Create Accessible Community Guidelines** – Develop clear, respectful expectations for participation, behavior, and mutual support. Include visual tools like social stories, identify who can help, and offer flexible options for engagement and asking for assistance.
- **Address Participation Barriers** – Go beyond physical accessibility by considering financial, social, and transportation barriers. Offer sliding scale fees, non-physical roles, carpooling options, and transparent communication about what is and isn't accessible.
- **Engage the Community** – Partner with nearby gardens and civic groups. Use meet-and-greets, open invitations, and community-centered events to build relationships and increase awareness.
- **Intentionally Engage the Disability Community** – Make targeted outreach to disability groups, promote accessibility features clearly, and host events designed with community input (e.g., sensory-friendly days, adaptive workshops). Provide disability etiquette training for staff and volunteers, and ensure communication is respectful, inclusive, and accessible in multiple formats.

Introduction

An inclusive garden actively invites and supports individuals of all abilities, backgrounds, and experiences. There must be efforts to foster a community that is inclusive and supportive. In this section, we'll dive into how to build a strong community, addressing general participation barriers, and intentionally engaging with the community- including the disability community.

Building a Strong Community

Building a strong community among gardeners can help ensure an inclusive and welcoming garden. Here are some strategies for building a strong community!

- **Scheduled Workdays:** Host monthly or quarterly workdays to encourage collaboration. Structure these days with clear, adaptable task assignments so that people with different abilities can contribute meaningfully. Create a social story in advance for adaptable tasks assignments. (refer to social story section)
- **Garden-Related Group Activities:** Plan outings to garden centers to find discounted plants and learn which ones may be worth saving. These trips can support shared learning and help reduce costs. Consider bulk purchasing as a group for discounts or explore online fundraising options like Boom Box. Make sure group activities are accessible in terms of transportation, communication, and physical access.
- **Social Events:** Organize gatherings beyond gardening to build relationships. Plan inclusive events such as potlucks, storytelling circles, or art workshops to encourage community bonding.
- **Open Communication:** Encourage feedback and regular meetings where all members can contribute ideas and concerns. Create anonymous suggestion boxes, hold town hall-style discussions, and ensure that leadership is approachable and responsive.
- **Recognition and Celebration:** Acknowledge achievements, milestones, and contributions to foster a sense of belonging. Host annual award ceremonies, highlight individual contributions in newsletters, and celebrate community growth.
- **Mentorship and Buddy Systems:** Pair experienced gardeners with new members to foster inclusion and support. Establish clear guidelines for mentors, encourage check-ins, and provide training on how to support those with different abilities.
- **Application Process:** When designing the application to join your garden, consider questions that will reveal people's motivation for joining the garden (e.g., do they want to build connections and engage with folks?). Describe the culture of the garden within the application for the garden & the steps that are taken to create that community so people joining know what to expect.

- **Social Media Pages:** Consider creating social media groups where garden members can post, sharing pictures, stories, and other discussions. Consider making the group public so non-members can see more about the garden (but perhaps not post).
- **Strengths-based approach:** Encourage all garden members to utilize their personal interests and unique skills in their roles within the gardens! This may include tasks outside of planting in the garden (Such as maintaining social media and organizing tasks).
- **Learning Opportunities:** Invite guest speakers or host hands-on workshops to build skills related to the garden, such as composting, soil testing and amending, pest management, seed saving, and food preservation (like canning). Encourage visits to other community gardens to connect with mentors or explore shadowing opportunities. Look for ways to share educational programming or build partnerships with local organizations, schools, or disability service providers to make learning more inclusive and community driven.

Accessible Community Guidelines

Establishing clear, inclusive, and accessible community guidelines helps ensure that all gardeners feel supported, respected, and empowered in the space. When developing or reviewing guidelines, consider how existing policies might unintentionally create barriers to participation and aim to proactively address accessibility needs. Community guidelines should reflect a commitment to inclusivity, mutual support, and clear communication so that every gardener knows what to expect and how they can engage.

Below are key considerations for creating accessible and inclusive guidelines:

- **Support and Communication:** Include a section asking members how the garden can best support them. Clearly outline who to reach out to with questions, accessibility requests, concerns, or general feedback.
- **Identifying Support People:** Consider using lanyards, name tags, or another identifier for volunteers or garden members who are available to answer questions and provide guidance.
- **Rules of Gardening and Engagement:** Establish clear, welcoming guidelines for how members interact with the space and each other. This should include expectations for communication, conflict resolution, and respect for shared spaces.
- **Social Stories for Navigation:** Provide a visual or written social story explaining how to use the garden, where to find tools, how to water plants, and other essential details (see the Social Story section)
- **Encouraging Requests for Assistance:** Normalize and encourage asking for help when needed by reinforcing that gardening is a collaborative effort.

- **Boundaries and Respect:** Define boundaries and respectful engagement practices, ensuring that all gardeners feel safe and valued in the space.
- **Support Persons:** Offer the option for members to identify a support person who can assist them in the garden. Consider creating a way for people to sign up as volunteer support persons for those who may want help or need assistance.
- **Inclusivity and Accessibility:** Include guidance on how to express access needs, and a statement reinforcing the garden's commitment to inclusivity, accessibility, and accommodations.
- **Assume Competency and Ask Before Helping:** Reinforce the principle of asking before assisting someone to ensure that help is offered in a respectful and empowering way.
- **Tags or Identifiers for Supportive Gardeners:** Consider using tags, stickers, or other visual indicators for members who are open to offering help or answering questions.
- **Offer Multiple Ways to Request Help:** Provide accessible options for requesting help, such as a bell, intercom, call button, or dedicated phone line. This is especially helpful for gardeners who are blind, have low vision, or limited mobility. Have trained staff or volunteers nearby and ready to respond when needed.
- **Garden Orientation and Education:** Provide an overview of the garden's purpose (e.g., community, educational, or production garden) and clear signage on how to use tools, where to find water access, and contact information for garden managers. Provide an audio description along with a physical map of the garden, and point out in advance restrooms, drinking water, exits, and what to do in cases of emergencies, or when someone needs assistance.
- **Quiet Hours:** Designate specific times each week as "quiet hours" for those who prefer a more peaceful, low-stimulation environment. Ensure these times are well-advertised and respected.
- **Consider Flexibility:** The expectations of a garden space—such as shared responsibilities, scheduled workdays, or physical tasks—may create barriers for some gardeners. Build flexibility into participation options, such as alternative ways to contribute (e.g., virtual coordination, advocacy, or planning) and non-time-sensitive gardening opportunities. A flexible, adaptive approach makes the garden more inclusive and welcoming.

Addressing Participation Barriers

To ensure that everyone can participate fully, barriers beyond physical accessibility should be addressed, including financial and social considerations. Think about factors that could make it harder or prevent someone from participating in your garden! We've included a few common barriers below, along with examples of possible strategies for addressing these barriers.

- **Financial Inclusion:** Offer sliding-scale fees, seed swaps, and shared resources to make participation affordable. Provide donation-based memberships, sponsorship opportunities, and grant-funded support for those who need financial assistance. Consider if members could volunteer their time in exchange for free/reduced access to gardening space- such as if the garden needs general maintenance work or upkeep.
- **Flexible Participation:** Provide multiple ways to be involved, such as varying work times, remote planning roles, or non-physical tasks. Develop an online platform for virtual involvement, such as coordinating planting schedules, assisting with outreach, or managing administrative tasks.
- **Transportation Support:** Accessing the garden can be challenging due to inaccessible streets or limited public transportation options. To promote inclusion, consider advocating for accessible transit routes near growing spaces, working with local transit authorities to improve nearby bus stops and pathways, or partnering with paratransit services to provide transportation for specific events or regular gardening days. Additionally, fostering community support through carpooling can help ensure that those without personal transportation have a reliable way to participate.
- **Regular Accessibility Assessments:** Ask members about their access needs regularly and adapt as necessary. Conduct surveys, hold listening sessions, and assign an accessibility coordinator to address concerns proactively.
- **Transparent Accessibility Information:** Clearly advertise what aspects of the garden are and are not accessible to avoid misinformation and discomfort. Include this information on websites, social media, and physical signs at the garden entrance.
- **Connecting with other Community Gardens:** if unable to meet accommodation needs, if your garden is connected with other local gardens, perhaps you could connect a person with a garden that is able to meet their needs. Same goes for other gardens- if they can't meet a certain access need but your garden can, perhaps they can direct the individual to your garden.

Community Engagement

Building connections with the wider community strengthens the garden's impact, increases participation, and fosters long-term sustainability. Engaging with local residents, civic groups, and other community gardens helps spread awareness, creates opportunities for collaboration, and makes the garden a more inclusive and welcoming space.

Ways to engage the community include:

- **Partnering with Other Community Gardens:** Establish relationships with nearby gardens or "sister gardens" to share knowledge, resources, and support. Collaborating can lead to shared events, seed exchanges, and expanded learning opportunities.
- **Hosting Pop-In Meet & Greets:** Attend civic association meetings, neighborhood gatherings, or local events to introduce people to the garden. Share gardening tips, information about the space, and ways to get involved—whether through active participation or simply visiting with no commitment.
- **Creating Open, Low-Pressure Invitations:** Some community members may feel hesitant about joining structured gardening programs. Encouraging people to drop by, observe, or casually hang out in the space helps create a welcoming, inclusive environment for those who are curious but not yet ready to commit.
- **Offering Community Engagement Opportunities:** Look for ways to bring people together, whether through volunteer days, educational workshops, cultural celebrations, or garden-related art projects that reflect the community's interests and traditions.

Engaging the Disability Community

When developing and maintaining an inclusive community garden, a question to ask yourself is "who isn't here and why?" Part of promoting inclusivity is reaching out to those in your community who have been previously excluded and making intentional efforts to show them that their needs are considered, and they are welcome into your space. Intentional recruitment and engagement strategies can help make all feel welcome. This involves engaging with the disability community in your area, as well as considering all aspects of inclusivity that goes beyond physical accessibility. Check out some potential strategies for engaging the disability community below!

- **Outreach Efforts:** Connect with disability advocacy groups, peer support organizations, and mental health support networks to spread awareness about the garden and invite participation. Attending local disability-related events, distributing flyers at relevant community centers, and establishing partnerships with organizations that serve people with disabilities.
- **Advertise Accessibility Features:** Let people know what changes have and have not been made to increase the accessibility of your space. Use clear, inclusive language on flyers and social media to highlight accessible features. Include images of diverse gardeners, list accommodations available, and provide contact information for accessibility-related questions.
- **Targeted Events:** Host special days for specific communities, such as sensory-friendly gardening days. These events should be designed with input from those communities about the best participation options. Activities could include:

    - ***Sensory-Friendly Gardening Days:*** Designed for individuals with sensory sensitivities, featuring quiet hours, limited crowd sizes, and alternative participation options
    - ***Adaptive Gardening Workshops:*** Teach ergonomic gardening techniques, introduce assistive tools, and demonstrate accessible garden layouts
    - ***Intergenerational Gardening Programs****:* Partner with schools and senior centers to create opportunities for diverse participation.
    - ***Disability-Specific Workshops:*** Invite groups that tailor towards a specific disability community (for example a Blind/Low-Vision community group) and tailor a workshop to their specific access needs.
- **Breaking Down Stigmas:** Ensure that individuals with stigmatized disabilities, such as psychiatric or developmental disabilities, feel included. Provide education to volunteers and members about disability justice and foster an environment of mutual respect and understanding.
- **Training for Volunteers and Staff:** Educate leaders on disability etiquette and support strategies. This could include interactive training sessions, online resources, and continuous feedback opportunities; of which the feedback will be incorporated into training sessions.
- **Inclusive Signage:** Use signage that explains garden rules, provides directions, and welcomes people in multiple languages and formats. Ensure that text is large, high-contrast, and includes Braille or QR codes for audio guidance.
- **Respectful Communication:** Provide guidelines for inclusive language and engagement. Provide informational materials on disability etiquette, active listening, and avoiding ableist assumptions, and perhaps bring in speakers to offer workshops in person and/or virtually. This important information can also be included in a welcome video upon arrival or orientation video and/or packet, prior to arrival.

Pathways

Section Summary

This section outlines how to design and maintain accessible garden pathways that support safe, independent navigation for people with a wide range of disabilities, including wheelchair users, blind or low vision gardeners, and those using mobility aids or managing chronic fatigue, pain, or cognitive disabilities. This section emphasizes that accessible pathways are not just about compliance—they are central to ensuring every gardener can move safely, confidently, and independently through the space.

- **Design Inclusive Pathways** – Paths should be wide, smooth, and stable, connecting all key areas like beds, seating, restrooms, and tool storage. Use circular layouts with edge guides or auditory features (e.g., wind chimes) to support wayfinding for low vision and neurodivergent gardeners.
- **Create Accessible Entryways** – Gates and doors should be easy to open with one hand and a closed fist, lightweight, and positioned at an accessible height with enough clearance for mobility devices.
- **Choose Appropriate Surfaces** – Ideal surfaces are firm, non-slip, and easy to wheel or walk on. Concrete and asphalt are most accessible, but compacted stone, pavers, and rollout mobility mats are good alternatives. Consider maintenance, drainage, and texture.
- **Add Clear Path Markers** – Use high-contrast, tactile, and textured markers to highlight transitions, slopes, and intersections.
- **Ensure Safe Slope and Ramps** – Keep slopes gentle (max 5%) and add ramps where needed. Ramps should be wide, slip-resistant, and include railings and landings. Curb ramps should use contrasting textures and colors for visibility.
- **Plan for Adequate Width** – Standard paths should be at least 3 feet wide; 5–6 feet is ideal for turning, passing, or two people walking/rolling side by side. This includes paths between garden beds.
- **Use Accessible Locks** – Choose locks that are easy to use with limited dexterity or low vision. Options include large-key padlocks, directional locks, or RFID/NFC fobs. Offer low-tech alternatives and involve the community in decision-making.
- **Maintain Paths Regularly** – Keep paths free of debris, potholes, moss, and other hazards. Inspect before events and maintain slip-resistance on ramps and hard surfaces.

Introduction

Accessible pathways are essential for ensuring that all gardeners can move safely and independently throughout the garden space. Well-designed paths support wheelchair users, people using mobility aids, individuals with low vision, and anyone who benefits from stable, predictable surfaces. An effective pathway system considers width, surface material, slope, and wayfinding features to accommodate a variety of needs. Thoughtful pathway design not only improves navigation but also enhances the overall gardening experience by reducing barriers to participation.

Pathway Design

A well-designed pathway system ensures that all gardeners can navigate the space safely and independently, regardless of mobility, vision, or cognitive access needs. Thoughtful design considerations help create a clear, continuous, and intuitive flow throughout the garden.

- **Access to Key Areas:** Accessible pathways should connect all main garden infrastructure, including raised beds, seating areas, restrooms, tool storage, and gathering spaces. This ensures that all gardeners can easily reach essential areas without barriers.
- **Circular and Intuitive Layout:** Whenever possible, pathways should loop back to a familiar reference point, such as a wind chime, seating area, or entrance. This prevents dead ends and supports wayfinding for gardeners with low vision, memory impairments, or cognitive disabilities.
- **Proximity to Accessible Parking and Transit:** The main accessible pathway should begin near designated accessible parking spots and drop-off areas. If the garden is near public transit, a continuous, barrier-free accessible path should connect the bus stop to the garden entrance to ensure smooth access.
- **Gradual Curves Over Sharp Turns:** To enhance maneuverability for wheelchair users and individuals with mobility aids, pathways should have gentle, flowing curves rather than abrupt, sharp turns.
- **Edge Guides for Navigation** – Raised borders, textured edges, or low planters along pathways help gardeners with low vision or balance concerns stay oriented and move confidently through the space.
- **Auditory Wayfinding Features** – Incorporating water features, wind chimes, or textured ground materials along paths provides audio and tactile cues to support wayfinding for blind or low vision gardeners.

Entryway

The entryway for the garden and any public buildings should be accessible. The path at the entryway should be level or ramped, and any door or gate should be easily opened. Any closed entryway should:

- Have a handle 36-48 inches above the ground
- Have a handle easily operating with the closed fist method (see below)
- Have a light door that does not need much force to operate
- Have a width of at least 32 inches with the door open
- Have a wide clearance behind the door to maneuver, preferable 60 inches
- If there is a door or gate, the handle should be 36-48 inches above the ground and easily opened with one hand and a closed fist.

Surface

The surface of pathways can greatly affect the accessibility of your growing space. There are many factors to consider when choosing a pathway surface. Ideally, a pathway surface should be smooth, firm, stable, level, wheel-able, have tactile markers, and provide traction when slippery. While some materials are more ideal than others, optimizing what you have within your budget and based on your community is always best.

Is Paving necessary?

When installed correctly, paved pathways are a great way to ensure accessibility as they provide a smooth, stable, and slip resistant surface. But paving may not be possible when there are financial, spatial, and legal barriers. If paving is not an option for your space, there are ways to make unpaved paths accessible to most community members such as rollout mobility mats.

If you do decide to pave your pathways, consult with a landscaper or local garden/hardware store to see which material would work best for your space.

Material

There are many materials that can help create an accessible pathway. It is important to consider:

- Surfaces are most effective when continuous without cracks
- Hard surfaces are easier to navigate with a cane and/or mobility device
- Surfaces should have a texture and drain well to avoid slippery wet conditions

Surface Type	Considerations
Concrete	• Expensive • Safe, easy to travel on for those who use wheelchairs, use canes, use walkers, have limited mobility, or have risks of falling • Can embed tactile markers • Glare can cause problems for people who are low vision • Can add color and texture for people who are blind/low vision • Porous pavement system recommended
Asphalt	• Expensive • Safe, easy to travel on for those who use wheelchairs, use canes, use walkers, have limited mobility, or have risks of falling • Can embed tactile markers • Slippery when wet • Absorbs and radiates heat, can get very hot • Can develop cracks after freezing
Decomposed granite or crushed stone	• Readily available • Good for wheelchair users but not for people using crutches o Less ideal to walk or wheel than concrete • Less expensive than concrete, simpler to install • Must be compacted to be accessible • Do not need guide markers as the surface is different from the surrounding area • Needs a weed barrier underneath (ex. plastic or weed-block fabric) • For installation info resource 11
Brick	• Expensive and must be installed properly • Requires seasonal maintenance • Paving bricks recommended over building bricks • Can be slick when wet if not treated properly • Safety an issue when not maintained • Can be bumpy for wheelchair users if not maintained • Do not need guide markers as the surface is different from the surrounding area
Flagstone and Pavers	• Needs to be even surfaced • Must set firmly in sand or mortar with very narrow joints

Surface Type	Considerations
	• Can be slippery when wet and wobbly to walk on • moss growth must be maintained to avoid slippery surface • For installation info resource 11
Portable rollout mobility mats	• Portable and removable rollout • Easy for retrofitting existing gardens • Corrugated surface provides traction • Good for wheelchair users and strollers • Light weight and easy to install • Flexible and conforms to the ground • Must level ground before installing • Colored mats provide visibility markers • Caution: product material and risk of chemical leeching
Plastic pavers and open grid systems	• Allows plants to grow through path for more natural look • Must be tamped down • Not very accessible for canes • For installation info resource 11
Screenings	• Comes in large and small pieces • Not recommended for people using canes, wheelchairs, or walkers
Tile	• Can be slippery when wet • Only use as accent edging
Wood Decking	• Can be slippery when wet • Can be expensive • May be labor intensive to maintain
Wood chips and Turf	• Not recommended for people using canes, walkers, or wheelchairs
Grass	• Very difficult for people with a wheelchair, walker or stroller to use. • It can be made more accessible by being regularly maintained. Grass should be kept short as it is bumpy and uneven when not closely mowed • Slippery when wet
Dirt	• Very difficult for people with a wheelchair, walker or stroller to use. • It can be made more accessible by being regularly maintained. Dirt paths should remain even and ditch-free when possible. • Slippery when wet

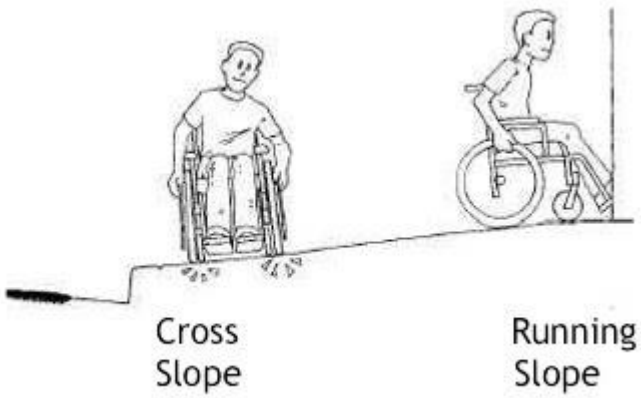
Surface	Suitability for Canes, Walkers	Suitability for Wheelchairs	Use on Ramps	Ease of Install-ation	Aesthetic Appear-ance	Cost Range	Mainten-ance Require-ments
Concrete	good	good	yes	easy	poor	cheap-medium	some
Asphalt	good	good	yes	fair	poor	cheap-medium	yes
Pre-cast Concrete Slabs	varies	good	yes	fair	poor	cheap-medium	some
Pattern Pave	poor	good	yes	hard	fair	medium-expensive	none
Interlocking Blocks	good	good	yes	hard	good	medium	none
Stone Slabs	varies	good	yes	hard	good	medium-expensive	none
Brick	varies	good	yes	fair	good	medium-expensive	yes
Gravel	poor	poor	no	easy	good	cheap	yes
Wood	poor	poor	yes	easy	good	medium	
Cobbles in Concrete	poor	poor	no	fair	good	medium-expensive	none
Bark	poor	poor	no	easy	good	cheap	yes

Path Markers

Path markers enhance navigation, safety, and accessibility by providing clear visual, tactile, and auditory cues for all gardeners. These markers are especially valuable for blind and low vision gardeners, individuals using mobility aids, and anyone who benefits from clear wayfinding elements.

- **Tactile and High-Contrast Markers:** Pathways should include high-contrast visual markers and distinct textures to support safe navigation. Raised or textured markers help cane users detect pathways, intersections, and potential hazards.
    - **Embedded Tactile Markers:** On concrete and asphalt pathways, tactile paving strips can be embedded to provide clear wayfinding guidance.
- **Using Texture Changes for Navigation:** Different pathway materials, such as shifting from smooth pavement to crushed stone, can signal transitions in the garden. Planter edges, low borders, or textured strips can also serve as tactile guides to help gardeners recognize different areas.
- **Visual and Tactile Hazard Marking:** Any pathway changes, slopes, or potential hazards should be clearly marked using both visual and tactile elements. Yellow paint provides high visibility for low vision gardeners, while textured or raised markers can offer tactile feedback to alert gardeners to changes in terrain.
- **Offer Guided Orientation:** In addition to path markers, tactile cues, and visual signage, some gardeners may benefit from a guided introduction to the space. Having a volunteer, fellow gardener, or staff member walk through the pathways with them can help familiarize them with key landmarks, access points, and navigation strategies. This can be especially helpful for blind or low vision gardeners, individuals with memory impairments, or those new to the space, ensuring they feel comfortable and confident moving through the garden independently

Slope



The slope of pathways plays a key role in ensuring smooth, independent navigation for all gardeners. A proper slope allows for safe and comfortable movement throughout the space.

What is an accessible slope?

Running Slope refers to the incline of the pathway in the direction of travel. If a slope is too steep, it can require excessive effort to navigate, making it more difficult for people using wheelchairs, canes, or other mobility devices to maneuver safely. A running slope should be **no greater than 5%** (one foot of rise for every 20 feet of pathway). If the slope exceeds this, a ramp should be installed to maintain accessibility.

Cross Slope refers to the side-to-side elevation change across the width of a pathway. A cross slope that is too steep can cause instability, loss of balance, and difficulty controlling mobility devices. To ensure smooth movement, cross slopes **should not exceed 2–3%** (one foot of elevation change every 33–48 feet). If the cross slope is greater than this, a ramp or other corrective measures should be implemented to improve stability and ease of use.

Ramps

Ramps enhance accessibility, support safe movement, and create a more inclusive gardening space by providing a smooth, continuous path for all gardeners. They allow for greater independence by ensuring that individuals using wheelchairs, walkers, or other mobility aids can navigate the garden with ease. Ramps also benefit all gardeners by making it easier to transport materials, move heavy loads, and reduce strain when navigating elevation changes.

Some key considerations for ramps include:

- **Slope:** a ramp's slope should not exceed 8.3%, or one inch in height for every 12 inches of ramp
- **Width:** a ramp should be at least 3 ft wide, ideally no less than 4ft wide
- **Landings:** There should be a level landing on the top and bottom of every ramp that is at least 5 ft x 5 ft. Additionally the maximum length of the ramp before a landing should be 30 ft when there is a 1:12 slope, and 40 ft if there is a 1:16 or 1:20 slope
- **Railings:** If ramp height is greater than 6 inches, it needs rails on both sides. Railings should be 2'8" - 3' tall. There should also be a curb or low rail to keep casters on ramp
- **Materials:** Ramps need to be covered in non-stick material. Textured concrete and roughened wood are good non-skid materials. Do not use plywood as it is slippery when wet. Gravel or concrete foundation can be installed underneath to prevent sinking and ensure stability
- **Curb Ramps:** Curb ramps should be 5 ft wide with contrasting color and texture for those who are blind/low vision.

Path Width

The ideal width of pathways changes depending on the type of mobility devices used by community members, the size of the space, and budget considerations. Overall, an accessible path should be at least 3 feet wide. This includes the paths between garden beds. For those who use mobility devices, a path must be 5-6ft wide to turn around. Any path less than 5-6ft wide should have turning points that are 5-6 ft in diameter. How many turning points will depend on the size and layout of the garden, but there should at least be one on each end of a pathway.

Path Width Guide

Type of path width	Measurement
Minimum width of any path	36” (3 ft.)
Minimum width for wheelchairs, scooters, and wheelbarrows	40”
Minimum width for two people to pass each other	48” (4ft)
Minimum width for two wheelchair/scooter users to pass each other	7 ft
Turning Point Width (Diameter)	5-6ft

Locks

Locks play an important role in maintaining security and ensuring controlled access to growing spaces. However, it’s essential to choose locks that are easy to operate for all gardeners, including those with limited dexterity, low vision, or mobility disabilities. Because locks are often installed at entry gates along pathways, it’s important to ensure they do not create barriers to accessing the garden.

Choosing accessible lock options allows gardeners to enter and exit the space independently and safely, ensuring that security measures support, rather than hinder, full participation.

Here’s a guide to accessible lock options:

Traditional Locks

Traditional locks are widely used and familiar to most people. While they can be reliable, some designs may require fine motor control, hand strength, or precise movements, which can create barriers for some gardeners.

1. **Padlocks:** These use a key to open a hinged shackle.

- ***Benefits:*** Affordable, widely available, and keys can be easier to use than combination locks.
- **Accessibility Considerations**: Small keys and stiff shackles can be difficult to manipulate. Choosing padlocks with larger keys, an easy-turn mechanism, or push-button unlocking can improve accessibility.

2. **Deadbolts:** These locks require a key to turn a bolt into a door frame
   - ***Benefits:*** Secure and familiar to most people.
   - ***Accessibility Considerations:*** Turning a key in a deadbolt can require significant dexterity and strength. Replace these with keyless options for easier access.
   - **Examples:** Lockey Keyless Lock, Gatemaster Keyless Combination Lock for Wooden Gates

Combination Locks

These locks use a sequence of numbers or buttons to unlock. Combination locks eliminate the need for a key but can have mixed accessibility depending on the type.

1. **Manual combination locks:** Require turning dials to specific numbers in a sequence.
   - ***Accessibility Considerations:*** These locks may require multiple steps and precise movements, which can present challenges for gardeners who process information differently or experience limited dexterity. They are not usable for gardeners who are blind.
2. **Electronic combination locks: Use a keypad to enter a code.**
   - ***Benefits:*** Can be easier to use than manual combination locks.
   - ***Accessibility Considerations:*** May require remembering a code, which can be difficult for some users. The keypad design can also impact accessibility: larger buttons or voice-enabled options can make them easier to use.
3. **Directional combination locks**

- Requires users to input a sequence of directional movements (e.g., up, down, left, right) rather than turning a dial or entering numbers.
- **Benefits:** More accessible to those who are blind or low vision, requires less finger dexterity than traditional or electronic combination locks.
- ***Accessibility Considerations:*** Still requires memorization of a sequence and may not be suitable for individuals with limited hand mobility.

RFID/NFC Locks

These use radio frequency identification or near-field communication to unlock. Users simply tap a card or fob against a reader to gain access.

Benefits: Offer a high level of accessibility as they require minimal physical effort. The tag can be in various forms (key fob, card, sticker) to suit individual needs.
Accessibility Considerations: May require specific devices or apps to manage access and can be more expensive than traditional locks.

Other Considerations

- **Chain locks:** If using chains, secure one end permanently to simplify the locking process. Use a lightweight chain for easier handling. Another alternative is a U-shaped bike lock or having a grabber tool accessible nearby.
- **Number of users:** Consider how many people need access, as some lock systems have limitations on the number of users or codes.
- **Community preferences:** Involve community members in choosing the locks to ensure their needs and preferences are met.
- **Prioritize low-tech solutions:** While technology can enhance accessibility, simpler options are often more reliable and easier to maintain.
- **Automatic doors:** If electricity is available, having doors or gates automatically open will increase accessibility
- **Open Hours:** Having designated days/times the space is unlocked and open for visitors or a contact person who can unlock the gate when requested eliminates lock barriers and can facilitate accessibility

Upkeep and Maintenance

Paths should be regularly maintained to ensure continued accessibility. Paths through the garden should be inspected before any event to ensure there are no obstacles or accessibility barriers. Regular maintenance includes:

- Removing all obstacles and protruding objects from the pathway
- Conduct maintenance on pathway as recommended for the chosen material used
- Address any changes to level of the pathway, such as ditches or potholes
- Conduct maintenance on ramps to ensure they are slip-free
- Occasionally scrub hard surfaces to remove dirt and moss that can decrease traction

Beds and Planters

Section Summary

This section offers guidance on designing garden beds and planters that support full participation for all gardeners. Raised beds, container gardening, and vertical planters can expand access for gardeners who use mobility aids, experience chronic pain or fatigue, or simply benefit from more ergonomic options. By offering flexible, adaptable growing spaces, gardens can celebrate and welcome a wide range of ways people connect with plants and land.

- **Use a Variety of Accessible Beds** – Raised beds reduce strain from bending or kneeling and improve access for wheelchair users and gardeners with chronic pain or fatigue. Aim to make all new beds accessible, or at least 10–20% in existing gardens, based on community needs.
- **Design with Comfort in Mind** – Raised beds should be 20”–34” high and 10”–24” wide (if accessible from one side) to match natural movement ranges. Add side rails for balance and consider built-in seating for those who need rest or extra support.
- **Choose Safe, Durable Materials** – Use non-toxic, food-safe materials like wood, cinder blocks, metal, or concrete. Avoid materials that could leach chemicals into the soil.
- **Ensure Good Placement and Spacing** – Place raised beds near water sources, tools, and along accessible paths. Maintain 4–5 feet of space between beds to allow turning and safe navigation.
- **Support Vertical and Ergonomic Growing** – Add trellises, espalier, or arbors to bring plants within reach. Vertical gardens maximize space and reduce bending, benefiting seated and standing gardeners.
- **Offer Alternatives to Traditional Beds** – Container gardens, tabletop beds, and elevated tables offer lightweight, customizable options. Use rolling caddies, pulley systems, or planting bags to increase flexibility and reduce lifting.
- **Design Tabletop Beds for Wheelchair Access** – These should be 28”–34” tall, with at least 27” of knee clearance underneath. Keep the surface within easy reach without straining the shoulders or back.

Introduction

There are many design features within garden beds and planters that can increase accessibility. Raised beds, container gardening, and vertical gardens can make gardening easier and safer for community members with limited mobility.

It is best to have a variety of garden beds with different heights and accessibility features to provide access to a diverse community. If designing a new space, all beds should be made accessible garden beds. If adapting an existing growing space, at least 10-20% should be accessible. At minimum, it is important to have enough raised beds to serve the disability community in your area.

Raised Garden Beds

Raised garden beds enhance accessibility, create a more ergonomic gardening experience, and support gardeners in engaging comfortably and independently. They provide better access for wheelchair users, minimize the need for bending and kneeling, and allow gardeners to work with less physical strain. By bringing plants to an optimal height, raised beds promote endurance, ease of movement, and a more inclusive gardening space.

Dimensions

The ideal dimensions for a raised bed depend on the gardener's height, reach, mobility device use, and individual comfort. The goal is to match the bed's size to the gardener's natural movement range, ensuring efficient and comfortable access.

- **Height**: Raised beds should be between **20"–34"** high, with **24"–30"** being ideal for seated gardeners, allowing for comfortable reach without excessive strain.
- **Width**:
    - If accessible from one side, the bed should be **10"–24" wide** to support easy reach from a seated position.
    - If accessible from both sides, the width can be **up to 48"** for maximum usability.
- **Length**: While length does not directly impact accessibility, a **maximum of 10–20 feet** is recommended to prevent overexertion while working around the bed.

Additional support features such as sturdy edge bars or side rails can assist with balance and movement around the beds.

Materials

Raised garden beds can be constructed from a variety of durable and accessible materials, allowing gardeners to choose the best option for their growing needs, maintenance

preferences, and aesthetic goals. While wood is a common choice, many other materials can provide long-lasting, stable, and low-maintenance alternatives.

Common materials for raised beds include:

- **Wood:** A widely used option that is easy to construct and modify. However, wood-based materials decompose over time and may require more maintenance.
- **Cinder Blocks:** Sturdy, durable, and easy to stack for adjustable bed heights.
- **Landscape Edging Blocks, Stone, and Bricks:** Provide aesthetic appeal and long-term durability with minimal upkeep.
- **Poured Concrete:** Creates a permanent, weather-resistant structure that is highly durable but may require professional installation.
- **Metal:** Lightweight and long-lasting, with options such as galvanized steel or aluminum, which resist rust and weather damage.
- **Plastic Timbers and Keystone Walls:** Low-maintenance, rot-resistant alternatives that can provide a stable and uniform design.

When selecting materials, use caution with recycled materials, especially if growing edible plants. Some materials may contain chemicals or coatings that can leach into the soil. Always verify that materials are food-safe and non-toxic to ensure a healthy growing environment.

Side Walls

The design of raised bed side walls can enhance accessibility and comfort for a diverse range of gardeners. For wheelchair users and seated gardeners, thinner side walls allow for easier reach into the planting area. At the same time, gardeners who experience balance challenges, fatigue, or prefer seated support while gardening may benefit from integrated seating along the side walls for additional comfort and stability.

Whenever possible, raised beds should incorporate flexible design options to accommodate different access needs. Engaging with community members to understand their specific preferences and requirements ensures that raised beds are inclusive and functional for everyone. If seating is added to raised bed side walls, they should be at least 12 inches wide to provide a stable and supportive resting area.

Soil level

Beds should contain enough soil to support healthy plants and not dry out too quickly. Mulching is essential to slow water evaporation and keep the soil cool. A soil height of three feet is good for wheelchair users and standing gardeners.

Location and spacing

Accessible beds should be located near a water source and all gardening tools along an accessible path. For home gardens, accessible beds should be close to the house. There should be 4-5 feet of spacing between accessible beds. These pathways should follow the accessibility guidelines listed in the pathways section above.

Additional Design Considerations

Expand Growing Space with Vertical Supports – Adding a small trellis to raised beds allows gardeners to grow vining plants upward, making crops easier to reach while increasing available planting area. This is especially useful in compact spaces or for gardeners who prefer vertical access.

Maintain Open and Unrestricted Access – Avoid enclosing accessible gardening areas with wire, barriers, or restrictive materials that could limit movement, create obstacles, or reduce reachability. Ensuring clear, unobstructed access allows all gardeners to navigate and engage freely.

Raised Bed Alternatives

For gardeners looking for flexible, space-saving, or lower-maintenance options, there are many alternatives to traditional raised beds that can still provide accessible and productive growing spaces. Whether due to space constraints, budget, or specific access needs, alternatives such as container gardens, vertical planters, and table beds can offer customizable solutions that allow all gardeners to engage comfortably and independently.

Container Gardens

Container gardens offer a flexible, low-cost, and customizable way to create an accessible growing space. They can be placed at different heights, along pathways, or on elevated surfaces to meet the diverse access needs of community members. Containers come in many forms, including pots, buckets, and repurposed materials, allowing gardeners to adapt their setup based on space, mobility, and reach preferences.

Accessible Container Gardens

- **Hanging Baskets with Pulley Systems:** Using a pulley system allows containers to be easily raised and lowered, making them accessible for both seated and standing gardeners.
- **Circular Large Pots:** The rounded shape of large pots makes it easier to reach plants from multiple angles, reducing strain when tending to them.
- **Strategic Placement:** Positioning containers along accessible routes ensures that all gardeners can easily reach, water, and maintain their plants.
- **Stability for Support:** Containers should be stable enough to support body weight without tipping over, which is essential for gardeners who use canes, walkers, or need additional support while tending to plants.
- **Optimal Heights and Widths:** Containers placed at ground level should be between 20”–34” high and 10”–24” wide to ensure comfortable reach from a seated or standing position.

Keeping it Lightweight

Container gardening is more accessible when containers are lightweight and easy to move. To reduce strain and make adjustments easier:

- **Choose Lightweight Materials:** Opt for plastic buckets or fabric planting bags instead of heavy clay pots. Ensure all containers have proper drainage holes to maintain plant health.
- **Use Rolling Caddies:** Placing containers on wheeled caddies allows for easy repositioning and transport.
- **Reduce Soil Weight:** Instead of filling the entire container with soil, use lightweight materials (such as packing peanuts, inverted plastic pots, or foam blocks) in the lower half, contained in a plastic bag, to reduce overall weight.
- **Consider Planting Bags** – Fabric planting bags are a lightweight and portable alternative, offering good drainage and flexibility.

Vertical Gardens

Vertical gardening is a highly accessible and space-efficient technique that allows plants to grow upward rather than outward. This method reduces the need for bending, brings plants to a comfortable height, and makes maintenance and harvesting easier for gardeners of all abilities, including children and those who use mobility aids. Vertical gardens also maximize growing space, keep pathways clear for safe navigation, and can provide shade and wind protection, enhancing the overall accessibility and usability of a garden.

Containers for Vertical Planting

- Vining plants can be successfully grown in 5-gallon containers that are at least 10” wide, allowing for healthy root development while remaining manageable.
- For wheelchair users:
    - If **approaching from the side**, containers should be **no more than 34” high** to ensure easy reach.
    - If **approaching from the front**, containers should be **no more than 44” high** to allow comfortable access.

Trellises, Espalier, and Arbors

Structures such as fences, walls, trellises, espaliers, and arbors can be used to bring plants to an accessible height while adding beauty and function to the garden. These supports should always be placed along accessible pathways to ensure all gardeners can easily tend to and harvest from them.

For arbors, the maximum height should be six feet above an accessible path, ensuring that plants remain within a reachable range while maintaining clear overhead clearance for wheelchair users and other gardeners.

Elevated Tables

Elevated tables provide a comfortable and accessible gardening option for individuals who prefer to work at standing or seated heights. This method reduces the need for bending or kneeling and supports gardeners who experience chronic fatigue, pain, or who use wheelchairs or other mobility aids. Elevated tables can include containers placed on sturdy tables or table beds, where the gardening area itself is raised on legs to create a more ergonomic workspace.

Tabletop Beds

The ideal dimensions of a tabletop bed depend on the gardener's needs, ensuring comfortable reach and adequate clearance for mobility devices. For beds designed with space underneath for wheelchair users, a general guideline for dimensions is:

- **Height:** 28”–34” to allow for a stable and comfortable work surface.
    - **Maximum Height:** The top of the table bed should not exceed chest height, ensuring that plants remain within a comfortable and accessible reach range.
- **Knee Clearance:** A minimum of 27” underneath to provide space for wheelchair access.

Seating

Section Summary

Accessible seating supports rest, connection, and inclusion in the garden. It ensures that all community members—including older adults, people with chronic fatigue, mobility disabilities, or anyone who benefits from breaks—can participate comfortably and for longer periods of time.

- **Provide Resting Options Throughout the Garden** – Benches should be placed every 100 feet or less, ideally in shaded areas. All benches should have back support and at least one armrest to assist with stability and transfers.
- **Design for Access and Comfort** – Benches should be between 16–24 inches high and located next to accessible, level paths. Choose designs that allow for easy approach and transfer for wheelchair users.
- **Include Wheelchair-Accessible Picnic Tables** – Accessible tables should have at least 27” of knee clearance, 30” width, and 19” depth. Surfaces must be firm, stable, and have a slope no greater than 1:50 to support ease of use.
- **Distribute Seating Equitably** – Make sure accessible tables and benches are located throughout the garden—not just in one area—to support rest and inclusion in all parts of the space.

Introduction

Ensuring accessible seating options in a garden space allows for comfort, inclusion, and extended participation for all community members. Thoughtfully placed benches and picnic tables provide necessary rest areas and social gathering spots.

Benches

Benches provide essential resting spaces for gardeners, particularly for older adults, people with chronic fatigue, and those with mobility disabilities. Properly placed benches support both short and extended gardening sessions by reducing strain and offering a comfortable space to take breaks.

- If possible, place benches in shaded areas to prevent overheating and reduce sun exposure risks.
- Benches should be spaced no more than 100 feet apart to ensure frequent resting opportunities.
- Benches should have back support and at least one armrest to aid in stability and transfers.
- Place benches adjacent to an accessible pathway on a stable, smooth, and level surface to allow for easy use.
- Bench height should be between 16-24 inches to accommodate a range of users comfortably.
- If possible, provide benches that facilitate easy wheelchair transfers by incorporating armrests and appropriate spacing for approach and seating.

Picnic Tables

Picnic tables offer a communal space for socializing, resting, and conducting gardening activities. Ensuring that all tables are wheelchair accessible promotes inclusivity within the garden space.

Wheelchair Accessible Picnic Tables

- Accessible picnic tables should provide a minimum of 27 inches of knee clearance (height), 30 inches of width, and 19 inches of depth.
- At least 50% of all picnic tables should be wheelchair accessible, with at least two accessible tables in any given picnic area.
- Tables should be placed on stable, firm, and level surfaces, connected to an accessible pathway to ensure ease of movement.
- The table surface should have a slope no greater than 1:50 to ensure a comfortable and stable use.

- Accessible tables should be dispersed throughout the space to provide equitable access across the garden area.

Providing seating that meets these accessibility guidelines ensures that all gardeners, regardless of mobility or endurance levels, can comfortably engage in gardening and community activities.

Tools and Supplies

Section Summary

This section outlines how adaptive, ergonomic, and well-stored tools can expand access, reduce physical strain, and support a range of gardening styles. Choosing and adapting tools with accessibility in mind allows all gardeners to participate fully and comfortably.

- **Select Ergonomic and Adaptive Tools** – Choose lightweight tools with longer handles, comfort grips, and textured surfaces. These reduce fatigue and allow for comfortable gardening from seated or standing positions.
- **Adapt Tools for Comfort and Reach** – Use DIY strategies like foam grips, wrist straps, telescopic handles, or attaching PVC extensions to increase accessibility without high cost. Add bright colors or high-contrast tape for low vision access.
- **Support Safer Ground-Level Work** – Use kneepads, reversible kneelers with handrails, or rolling stools to reduce joint pressure. These help gardeners who need additional support or prefer to work close to the ground.
- **Offer Carrying Devices** – Belts, aprons, baskets, carts, and two-wheeled wheelbarrows make it easier to transport tools and supplies. Choose options based on strength, balance, and mobility needs. Some carts can also serve as resting stools.
- **Create Accessible Storage Systems** – Store tools near raised beds on accessible paths. Use hooks, floor-level barrels, or attached pouches instead of high shelves. Ensure storage sheds have accessible handles, accessible locks, and clear signage.

Introduction

Having adaptive and ergonomic tools in a gardening space enhances accessibility and supports diverse gardening styles. Selecting tools that are lightweight, easy to grip, and adjustable makes gardening tasks more comfortable and enjoyable for all gardeners.

General Tips for Accessible Tools

- **Ergonomic and Adaptive Tools** – Tools with longer handles, comfort grips, and lightweight designs help reduce strain and provide better leverage for gardeners.
- **Convenient Storage** – Tools should be stored near accessible beds or in an accessible tool shed, ensuring ease of access.
- **Lightweight Materials** – Choosing lightweight tools reduces fatigue and makes transporting them easier.
- **DIY and Low-Cost Adaptations** – Many tools can be modified using household materials like foam grips, wrist straps, or telescopic handles to better suit a gardener's needs.
- **Variety of Sizes** – Providing multiple sizes of gardening tools ensures that they are comfortable for gardeners of all ages and abilities.
- **Safe Usage Practices** – Teach gardeners how to safely handle tools, especially sharp or heavy equipment. Encourage the use of grip-enhancing gloves and store tools in a designated, organized space to prevent tripping hazards.
- **Bright Colors for Visibility** – Marking tools with bright colors or high-contrast tape makes them easier to locate, which is especially helpful for gardeners with low vision.

Adaptive Gardening Tools

Long Handles

Gardening requires you to work from a number of positions, standing, kneeling or seated. Consideration of tool handles and length can make plants more accessible and extend your time in the garden.

For gardeners working from a seated position or those who prefer not to bend, long-handled tools help extend reach. Adjustable and telescopic tools are available, extending from 25"–41" to accommodate different gardening setups.

Material and Handle Considerations

- **Lightweight Materials** – Tools made of **aluminum or fiberglass** reduce strain while maintaining durability.

- **Larger, Textured Handles** – Wrapping handles with **foam pipe insulation or textured medical tape** improves grip and reduces hand fatigue.

Grip Enhancements

- **Gloves for Improved Grip:** Options include gloves with sticky surfaces, rubber dots, or wrist straps to help secure grip strength.
    - **Easy-Grip Gloves:** These use a strap to secure the hand around a tool, supporting those with low or no grip strength.
- **Compression Gloves:** Designed to reduce joint pain caused by gripping and repetitive movements.
- **Ergonomic Tools:** Tools designed with a neutral grip orientation reduce strain on the wrists and joints, making gardening more comfortable.
- **D-Grip and T-Grip Attachments:** These modify existing tools to provide a more ergonomic grip.

Kneepads, Seating, and Kneelers

For many gardeners, getting close to the soil can cause pain or discomfort. Using cushions, pads or supports can significantly reduce strain on the body and allow for easier movement.

- **Kneepads, Knee Cushions, and Kneelers:** Reduce pressure on knees and joints when working at ground level.
- **Reversible Kneelers with Handrails:** Provide stability and leverage for gardeners needing extra support when getting up.
- **Seating Options:** Rolling stools, lightweight chairs, and 5-gallon buckets offer portable seating solutions that can be easily moved around.

Other Adaptive Tools

- **Specialized Pruners:** Some pruners are designed to hold blossoms after cutting, eliminating the need for bending.
- **Arm Supports for Tools:** Adding an arm support strap provides extra control and stability.
- **E-Z Reach Grabber:** Assists in planting bulbs, harvesting, and picking up items in the garden.
- **Seed Tape Strips:** Make manual seeding easier and more precise for all gardeners.
- **PVC Pipe Seeders:** Using a PVC pipe with a "V" cut at the end allows for seeding at ground level without bending.

- **Tool Sharpeners:** Keeping tools sharp and well-maintained makes tasks easier and reduces the effort required for cutting and pruning. Dull tools or knives can cause injury both to yourself, your plants, and make your work even harder.
    - **Safety Note:** Make sure to keep guards on sharp tools when not in use

Low-Cost DIY Options

Adaptive tools can be expensive, but modifying existing tools or repurposing household items can greatly increase accessibility without straining your budget.

- **Extending Tool Reach:** Attach PVC pipes, bamboo sticks, or another lightweight material to extend the reach of tools like shovels. This helps seated gardeners or those who prefer not to bend down.
- **Grip Enhancements:** Increase comfort and control by adding sticky tape, foam padding, bicycle grips, foam pipe insulation, or pool noodles to handles.
- **Tool Retrieval:** If someone is prone to dropping tools, attaching a small wrist strap or retractable string can make it easier to retrieve objects without bending down.
- **Household Alternatives:** Long-handled spoons, ice cream scoops, and mugs with handles can serve as easy-to-use digging and watering tools.
- **Supportive Grips:** A wrist guard with a plastic loop can provide extra stability by holding tools securely.

Carrying devices

One barrier to using a tool is getting it from its storage location to the place where you are going to use it. Carrying devices can help gardeners transport tools, plants, and materials more easily and reduce physical strain.

Belts and Aprons

Wearing a fisherman's vest, carpenter's apron, or gardening belt with deep pockets keeps essential tools and supplies within easy reach. This reduces the need to walk or bend frequently. The size of belts and aprons make them most helpful for carrying hand tools and seed packets. Belts and aprons can be adapted to fit onto wheelchairs and walkers as well.

Buckets and Baskets

A sturdy rubber bucket or handled basket can make it easier to gather and carry gardening supplies. A bucket requires a good amount of strength and balance, so they are not a good fit

for all disabled gardeners. Gardeners using walkers can attach a bicycle basket to the front for added convenience, providing a secure place to hold plants, tools, or small bags of soil.

Carts and Trolleys

For heavier or bulkier items, consider using a garden cart, luggage trolley, or golf bag carrier. These carts make it easy to transport materials like mulch and fertilizer, preventing back strain. Some garden carts can even double as seats, allowing for rest breaks when needed.

Wheelbarrows

Smaller, two-wheeled wheelbarrows are more stable and balanced than traditional wheelbarrows, making them easier to control. These are ideal for transporting heavy items, like soil or compost, as they distribute weight evenly and reduce the physical effort needed for lifting.

Storage

All tools should be stored in an area that is easily accessible, meaning there is an accessible path both to the storage area from the entrance and main gardening area. When possible, the storage area should be closest to accessible gardening beds and planters. The storage area should be clearly labelled with visual markers and signage.

- Hooks, pouches, and built-in compartments can be installed on the sides of raised beds for easiest access
- Make sure that adaptive tools for seated gardeners are not held on shelves. Ideally, long handled tools can be held in a short barrel or bucket on the floor
- While it is helpful to have tools in a central location, storing some tools used for a specific task in the area the task is done will increase accessibility.
- There are many options for storing tools. If you are using an enclosed shed, make sure it is accessible
- Ensure that any locks and handles on storage areas are accessible.
    - Choose handles that are easy to grip and operate such as lever-style handles or large loop pulls. Avoid knobs or latches that require twisting or tight pinching.
    - For accessible locks recommendations, see the Pathways section.

Signs

Section Summary

Accessible signage helps gardeners of all abilities navigate, learn, and feel welcomed in the space. By using plain language, high-contrast visuals, tactile markers, and multi-sensory formats, signs can meet a wide range of access needs.

- **Design Signs for Visibility and Access** – Use large print, bold fonts, and high-contrast colors. Place signs at varied heights for seated and standing gardeners, and along accessible pathways. Avoid placing signs too low to the ground.
- **Use Clear, Inclusive Language** – Write in plain language and define any gardening terms. Include welcome signs that explain the garden's purpose and how visitors can engage.
- **Provide Multi-Format Access** – Add raised letters, Braille, tactile icons, and QR codes linking to audio or digital versions. Offer signs in multiple languages and use picture-based signs to support non-readers.
- **Use Different Sign Types** – Wayfinding signs help with navigation; educational signs support learning; safety signs mark hazards, tools, and access points; and interactive signs can include "safe to taste" icons, sensory elements, and plant-based audio guides.
- **Make Signage Affordable and DIY-Friendly** – Use recycled materials, textured stickers, foam cutouts, or hot glue to create tactile, low-cost signs. QR codes and visual icons are free to make and easy to integrate.
- **Keep Signs Clean and Up to Date** – Regular maintenance ensures signs stay readable and useful. Refresh faded paint, clean off dirt, and replace worn tactile elements to keep the space organized and accessible.

Introduction

Signs in the garden help people navigate the space, stay safe, and engage with the environment. Thoughtfully designed signage ensures that everyone—regardless of ability, language, or familiarity with the garden—can access important information and feel welcomed.

Tips for Making Signs Accessible

Accessible signs ensure that all gardeners, regardless of vision, mobility, language, or cognitive access needs, can easily navigate and engage with the space. By using clear, high-contrast text, tactile elements, and multiple formats such as Braille, QR codes, and symbols, signage becomes more inclusive and functional. Thoughtfully designed signs help visitors find their way, learn about plants, and stay safe while fostering a welcoming and engaging environment.

Make Signs Easy to See

- Place signs at varied heights so they are visible to seated and standing gardeners, including those using wheelchairs or mobility aids.
- For plant identification signs, avoid placing them too low to the ground, as they may be difficult to see for wheelchair users or those who have difficulty bending. Use waist-height stands for better visibility.
- Position signs along clear, accessible pathways so they are easy to reach without navigating obstacles.
- Use large print and bold letters with high contrast colors (e.g., white text on a dark background) to improve readability for low vision gardeners.

Use Simple and Inclusive Language

- Write in plain, everyday language, keeping sentences short and clear.
- If specialized gardening terms are used, provide definitions or simple explanations.
- Include welcome signs that explain the purpose of the space (e.g., community, educational, or production garden) so visitors understand how they can engage with the garden.

Think About Different Access Needs

- Use raised letters and Braille so that blind and low vision gardeners can read signs by touch.
- Not all blind or low vision individuals read Braille—consider adding tactile symbols, textures, or universal icons for additional accessibility.
- Incorporate QR codes that link to audio descriptions or digital sign versions so gardeners can use screen readers or mobile devices for additional information.

- Offer signs in multiple languages, reflecting the primary languages spoken in your community.
- Use picture-based signs alongside text to improve comprehension for non-readers, multilingual gardeners, and individuals who process visual information better.

Types of Signs

Different types of signs serve varied purposes in the garden, from wayfinding and plant identification to safety and educational resources. Incorporating visual, tactile, and auditory elements ensures that signage meets the diverse needs of gardeners. Whether marking accessible paths, providing gardening tips, or creating interactive sensory experiences, well-placed signs make the garden more inclusive, informative, and enjoyable for everyone.

Wayfinding and Navigation Signs

- Maps, diagrams, and arrows help people know where they are and how to get around the garden.
- Raised markers or textured pathways provide guidance for blind or low vision gardeners and individuals with memory impairments.
- QR codes linking to audio navigation guides can further support wayfinding.

Educational and Informational Signs

- Label plants with large-print, Braille, and tactile markers to ensure identification is accessible to all gardeners.
- Provide illustrated instructions on gardening techniques, such as how to identify weeds, when to water, or how to harvest crops.
- Use stoplight colors (red, yellow, green) to indicate harvest readiness, and pair with textures or symbols to make the system accessible for colorblind and blind/low vision gardeners.
- Include QR codes linking to detailed plant care instructions or educational resources for those who want to learn more.

Safety and Accessibility Signs

- Mark locations of accessible paths, ramps, and raised beds to ensure all gardeners can find and use them.
- Clearly highlight potential hazards such as slopes, steps, or uneven surfaces with bright yellow paint and caution signs.
- Provide instructions for using shared tools, where to find them, and water access points.

- Include contact information for garden managers or coordinators for those interested in learning more or seeking assistance.

Sensory and Interactive Signs

- Encourage tasting and engaging with edible plants by marking areas where it's safe to pick and eat.
    - "Taste the Garden! You're welcome to pick from these plants. Wash before eating."
    - Add icons: ✅ 🤌 = Safe to Eat, ❌ 🚫 = Do Not Eat
    - Include Braille or raised plant labels for touch-based learning
    -
- Incorporate sound-based or interactive elements—such as wind chimes, recorded plant stories, or QR codes with audio explanations—for a multi-sensory garden experience.

DIY and Budget-Friendly Signage Ideas

Creating accessible signage doesn't have to be expensive. With a little creativity, low-cost materials and simple modifications can make signs more inclusive and easy to use. Using raised textures, bright colors, recycled materials, and QR codes allows gardeners to customize signage to fit their space and community needs while keeping costs low. These strategies ensure that clear, accessible communication is available to all gardeners, regardless of budget constraints.

- Create raised text and symbols using hot glue, textured stickers, or foam cutouts to make signs tactile and readable by touch.
- Repurpose materials such as wood scraps, recycled plastic, or laminated paper to create durable, low-cost signs.

Keeping Signs Clean and Updated

To remain effective, signs need to be well-maintained and easy to read over time. Regularly checking for damage, fading, or wear helps ensure that all gardeners can rely on clear, visible signage. Simple upkeep, such as cleaning dirt from surfaces, replacing worn-out signs, and refreshing paint or Braille markers, keeps the garden organized, accessible, and welcoming for everyone.

Bathrooms

Ensuring accessible bathrooms and indoor facilities supports the comfort, dignity, and independence of all gardeners. Thoughtfully designed spaces help accommodate mobility needs, caregivers, medical considerations, and personal care routines, making the garden welcoming and usable for everyone.

- **Accessible Restrooms:** Bathrooms should be within a reasonable distance from the garden and designed for wheelchair access, including a full-width handrail, an oversized door frame, and enough space for a full 360-degree turn. A roomy interior supports both caregiver assistance and parents with children.
- **Inclusive Features:** Raised toilet seats and sturdy grab bars increase accessibility for people with mobility disabilities, balance challenges, or those needing extra support.
- **Handwashing and Hygiene:** Access to soap, clean water, and a sink allows gardeners to wash their hands, whether after working with soil or administering medication. If a full restroom isn't available, a designated handwashing station with soap and running water can provide an essential hygiene solution.
- **Medication and Health Needs:** Some gardeners may need to administer medication during their time in the space. Having a clean, quiet indoor location with seating and a sink ensures that people can take care of their health needs comfortably and safely.
- **Consider Medical and Personal Needs:** Some participants may have conditions that require frequent restroom access or medications that affect their tolerance for heat, cold, or sun exposure. Having shade, seating, and a clean indoor or sheltered space allows people to manage their health needs comfortably.
- **Working with Limited Facilities:** Not every growing space will have the ability to include a full restroom. If a permanent restroom isn’t possible, portable restrooms, handwashing stations, or even a simple setup with soap and clean water in a designated space can help meet basic accessibility needs.

Water

Section Summary

Accessible watering solutions are essential for inclusive gardening. By offering multiple options, gardens can reduce physical strain and ensure that all community members can care for plants with ease and confidence.

- **Offer a Range of Watering Tools** – Use lightweight hoses, ergonomic watering cans, and long-handled or wheelchair-adapted tools. Provide small containers and flexible systems for gardeners who prefer not to use hoses.
- **Explore Irrigation Options** – Automated drip systems, soaker hoses, ollas, ceramic spikes, and plastic bottle irrigation can reduce manual effort. Choose systems based on available resources, maintenance needs, and gardener input.
- **Ensure Accessible Water Access** – Use lever-style spigots at 2–3 feet high. Clearly mark taps with bright colors or textured mats. Place water sources within 20 feet of plots and close to raised beds to reduce carrying distance.
- **Design Safe and Navigable Watering Areas** – Raised watering stations, slip-resistant surfaces, and clear, accessible paths reduce fall risks and support independent use.
- **Support Container Gardeners** – Use self-watering containers, watering wands, and moisture-retaining materials to reduce watering frequency and physical effort.
- **Use Community-Centered Strategies** – Offer watering guides with visuals, send alerts or reminders, and create buddy systems to share watering responsibilities and promote inclusion.

Introduction

Ensuring that all gardeners can efficiently and comfortably water plants is a key aspect of creating an inclusive growing space. Accessible watering solutions make it easier for everyone to participate by offering multiple ways to transport and distribute water with minimal physical strain. Whether through automated irrigation systems, lightweight hoses, ergonomic watering cans, or strategically placed water sources, thoughtful design can reduce barriers and increase independence.

Beyond functionality, water in a garden enhances the experience for all by creating a calming environment, attracting wildlife, and engaging the senses through sound and movement. This section explores a variety of watering solutions to ensure that every gardener can stay engaged and keep their garden thriving.

Irrigation Systems

A well-planned irrigation system can be the most accessible option, requiring minimal effort once installed. However, installation can be labor-intensive and costly, and maintenance may require a lot of fine motor skills presenting barriers to accessibility. The best solution for any garden will likely be a combination of methods tailored to the space and the gardeners' needs.

Pros and Cons of Irrigation Systems

- **Pros:** Reduces manual watering effort, conserves water, and can be automated.
- **Cons:** Can be costly, difficult to install, and requires periodic maintenance.

Types of Irrigation Systems (High-Tech to Low-Tech)

- **Automated Drip Irrigation:** Automated drip irrigation can conserve water since it delivers water straight to the roots of the plants. It is also easily set to a timer, which allows for completely automated watering. When working correctly, its automation makes it one of the most accessible options. But installation and maintenance can require a lot of fine motor skills and previous experience, so it is important to have someone with experience available for support in the garden space.
- **Soaker Hoses:** Soaker hoses provide low-effort watering over larger areas by dripping water through small holes directly into the soil. They can also be handmade by poking holes into an existing hose. They are more cost effective than an automated drip irrigation system, but they also may need maintenance.
- **Ollas (Clay Pot Irrigation):** Ollas are large clay pots that are buried into the soil and the clay slowly releases the water within the pot into the soil. It Is very low tech so it requires

much less technical maintenance, but they need to be checked periodically and refilled. They also must be planned in advance as they work best when buried before planting. It can also be costly to purchase enough clay pots for a larger space.

- **Plastic Bottle Irrigation:** Plastic bottle irrigation works similar to Ollas, but instead a plastic bottle with poked holes is buried instead of a clay pot. This is the cheapest option as you can use recycled materials, but there is some risk of plastic contamination so make sure you are using plastic that is safe (labelled by a recycling symbol with a 1 or 2). There is some labor needed to set up that may be inaccessible, and they should be checked periodically to see if they need to be refilled.
- **Ceramic Water Spikes:** Ceramic spikes are like ollas in that the ceramic clay slowly releases into the soil. Large glass bottles can be filled with water and placed into water spikes to create a long-lasting irrigation system. Good for individual plants but not ideal for large gardens.
- **Rainwater Collection Systems:** This can be compatible with any irrigation system. It is a sustainable way to collect water for your space and a great alternative when you don't have access to another water source, but it requires appropriate storage and dispensing systems.

Other Watering Systems

While irrigation systems can automate watering and reduce manual effort, many gardeners still rely on hoses, watering cans, and other tools to keep their plants hydrated. This section explores ways to make traditional watering methods easier to use, from lightweight hoses and retractable reels to ergonomically designed watering cans.

Hoses

Ensuring that hoses are easy to use and maneuver is crucial for creating an accessible gardening experience. The following recommendations aim to reduce strain, improve usability, and enhance safety for gardeners with a range of mobility and dexterity needs.

- Use lightweight, kink-free hoses that are easier to carry and maneuver.
- Install retractable hose reels or hose hangers at accessible heights of no more than 40 inches for those using wheelchairs or with limited mobility.
- Provide quick-connect fittings to minimize the dexterity required to attach or detach hoses.
- Mark hose ends with high-contrast colors and/or textures.
- Make sure hoses do not block accessible pathways
- Attach watering wands of different lengths to increase accessibility and reach

Watering containers

Water can be heavy, so smaller, lightweight containers should be available to transport water for those who cannot use a hose. The following recommendations focus on ease of handling, ergonomic design, and adaptive storage solutions.

- Water can be heavy, so smaller, lightweight containers should be available to transport water for those who cannot use a hose.
- Use watering cans with controlled valves to regulate water flow, reducing the risk of spills and strain.
- Provide watering cans with larger, ergonomic handles for better grip and easier carrying.
- Ensure watering cans are stored in an accessible place, such as on hooks at a reachable height (between 24-36 inches from the ground).
- Explore adaptive watering tools, such as wheelchair-mounted garden sprayers or long-handled watering devices.
- Consider tools that increase accessibility for those using mobility devices, such as paint bucket hooks for walkers or lap boards for carrying watering cans in wheelchairs.
- To reduce weight, encourage filling containers only halfway or using self-watering pots to minimize the frequency of manual watering.

Accessible Water Access

Access to water sources is essential for any gardener, but conventional taps and spigots can be difficult to use. Here are some considerations for making accessing water inclusive.

Water tap/hose spigot

Water taps and spigots should be designed with accessibility in mind to ensure all gardeners can access them comfortably and independently. Key recommendations include:

- **Handles:** Lever handles are easier to turn on and off than knobs. The most accessible handles are ones you can operate with a closed fist as it does not require finger dexterity, grip strength, or twisting. When a lever handle is not possible, enlarged knobs or faucet adapters can improve grip.
- **Height:** A height of 2-3 ft is most accessible for people who use wheelchairs and ergonomic to limit bending.

- **Sensory Access:** Brightly colored or painted taps can increase accessibility for those who are low vision. For those who are blind, having a textured mat that designates water access points can help with navigation.

Water Access Points

Creating dedicated watering stations can enhance accessibility, efficiency, and independence for all gardeners. Consider the following design elements:

- **Raised Watering Stations**: If using rainwater catchment systems, placing them on a platform at waist height makes water collection easier without requiring excessive bending or lifting.
- **Slip-Resistant Surfaces**: Watering sites should have surfaces that are stable, slip-resistant, and properly drained to prevent pooling and slipping hazards.
- **Proximity to Plots**: Carrying water or a hose over long distances can be a barrier. Ideally, taps should be within *20 feet of each plot*. Raised beds and other accessible plots should be placed closest to water access.
    - If direct tap access isn't possible, consider placing a large plastic trash container as a water source for filling watering cans.
    - Attaching water access directly to raised beds is the most accessible option, reducing the need to carry hoses or watering cans.
    - If plots are not adjacent to watering stations, ensure there is a clear and accessible pathway to the nearest water source.
- **Navigation Aids**: For gardeners who are blind or have low vision, changes in pathway texture can help identify watering station locations.

Watering Solutions for Container Gardens

Watering container gardens efficiently can reduce physical strain and improve plant health. Adaptive watering solutions allow for greater flexibility and ease of use for all gardeners.

- **Self-Watering Containers**: These allow plants to absorb water as needed, reducing the frequency and effort required for watering.
    - Capillary watering systems use wicking action to deliver moisture gradually.
- **Clay Spikes and Irrigation Devices**: These tools can provide sustained watering for containers and reduce manual effort.
- **Water Conservation**: Since containers require more frequent watering than in-ground plants, different tools can extend the time between waterings:

    - Drip trays to retain moisture
    - Mulching container surfaces
    - Water-retaining soil additives
- **Extending Reach**: Attaching watering wands of various lengths can assist with watering hanging baskets and raised beds without excessive stretching or lifting.

Other considerations

Beyond physical infrastructure, incorporating supportive tools and systems can improve the gardening experience for all participants.

- **Gardening Guides**: Provide step-by-step watering instructions in plain language with visuals to support comprehension.
- **Automated Alerts**: Use smartphone reminders, community boards, or text alerts to notify gardeners of watering schedules and changes.
- **Community Support**: Establish a buddy system to share watering responsibilities, ensuring plants receive consistent care while fostering social inclusion.
- **Moisture Meters**: Reduce guesswork with accessible moisture meters, including those with auditory feedback, visual indicators, or plain language displays.
- **Garden Organization**: Grouping plants by watering needs can streamline watering efforts and make navigation easier with hoses or irrigation systems.

Conclusion

A truly accessible garden incorporates diverse watering options that accommodate physical, sensory, and cognitive needs. By integrating adaptable solutions and fostering community collaboration, gardens can become inclusive spaces where all individuals can participate in growing and sustaining plant life.

Planting

Section Summary

This section provides strategies for making all stages of planting—selection, sowing, transplanting, weeding, pruning, harvesting, and composting—accessible to all gardeners. Thoughtful design, adaptive tools, and clear communication support full participation and independence in the growing process.

- **Use Multi-Sensory Supports** – Visual task cards, tactile markers, Braille, QR codes, and color-coded labels help gardeners navigate planting steps and stay oriented in the space.
- **Choose Accessible, Low-Maintenance Plants** – Select herbs, flowers, and vegetables that are familiar, pest-resistant, drought-tolerant, and sensory-rich. Native plants reduce upkeep and support biodiversity.
- **Create Safe and Navigable Planting Areas** – Avoid toxic or thorny plants and use tactile and visual signage to communicate plant risks and support safe harvesting.
- **Adapt Planting Layouts** – Group plants by watering needs or size, use companion planting, and try intensive or vertical gardening to conserve space and reduce physical effort.
- **Support Accessible Planting Techniques** – Use PVC seeders, seed tape, pre-marked guides, and raised workspaces to minimize bending and fine motor strain during seed sowing and transplanting.
- **Offer Soil Maintenance Alternatives** – Use pre-mixed soil, smaller containers, ergonomic scoops, and consider low-till or no-till methods to reduce the need for heavy digging.
- **Make Weeding, Pruning, and Harvesting Low-Strain** – Use long-handled tools, mulch to prevent weeds, ergonomic pruners, and visual-tactile harvest signs. Raised beds and vertical growing reduce the need to bend or stretch.
- **Ensure Composting is Inclusive** – Offer tumbling bins, low-height compost stations, labeled sorting bins, and ergonomic tools to support sustainable and accessible participation.

Introduction

A well-planned planting approach ensures that gardening is accessible, productive, and enjoyable for all. Thoughtful plant selection, adaptive planting techniques, and inclusive harvesting methods contribute to an environment where individuals of all abilities can participate fully. This section covers key considerations, including plant selection, seed sowing, cultivating, weeding, harvesting, and composting.

General Tips for Planting

Incorporating a variety of visual, tactile, and adaptive strategies ensures that all gardeners can confidently engage in planting activities. Thoughtful design and clear communication support independence and inclusion in the gardening process.

- **Provide Sequential Visual Direction:** Breaking down tasks into clear, step-by-step instructions helps all gardeners follow along at their own pace. Using social stories, illustrated guides, or task cards can provide structured support, especially for individuals who benefit from predictable routines.
- **Use Visual Signs to Reinforce Learning:** Placing instructional signs near planting areas can serve as helpful reminders of task steps, best practices, and safety guidelines. These signs should feature large-print text, high contrast colors, and simple graphics for easy readability.
- **Adaptations for Blind and Low Vision Gardeners:** Including raised markers, Braille labels, and textured row dividers allows gardeners who are blind or have low vision to navigate planting spaces with ease. Adding QR codes linked to audio instructions or digital guides to all visual materials ensures that gardeners using screen readers can access additional planting information independently.
- **Incorporate Visual Cues and Tactile Symbols:** Color-coded labels, raised markers, and textured indicators help all gardeners differentiate between plants, tools, and garden areas, ensuring that information is accessible in multiple ways.
- **Encourage Good Ergonomics:** Promoting safe and comfortable body mechanics helps gardeners maintain energy and reduce strain. Using adaptive tools, raised beds, and seating options supports gardeners in planting efficiently while reducing unnecessary bending, reaching, or joint stress.

Plant Selection

Choosing the right plants is essential for creating an accessible, engaging, and sustainable garden. Thoughtful plant selection can reduce maintenance, ensure safety, and enhance sensory experiences for gardeners of all abilities. When selecting plants, it is important to consider ease of growth, sensory appeal, local climate conditions, and the specific needs of those tending the garden.

Gardens should be designed with their users in mind. Plants can be chosen to provide shade, seasonal beauty, or to attract pollinators such as butterflies and songbirds. Choosing familiar plants, such as traditional herbs, vegetables, and flowers, can also provide cognitive stimulation by

triggering memories and fostering a deeper connection to the garden. Additionally, selecting plants with a variety of textures, fragrances, and vibrant colors can enhance sensory engagement, making the space more inviting and accessible to individuals with visual impairments or sensory sensitivities.

Low-Maintenance Plants

Gardening can be more accessible when it is less labor-intensive. Selecting plants that require minimal watering, pruning, and upkeep ensures that individuals with limited mobility, chronic pain, or fatigue-related conditions can participate without excessive strain.

- **Easy-to-grow plants**:
    - **Herbs**: Basil, chives, oregano—these hardy plants regrow easily and require little maintenance.
    - **Flowers**: Marigolds, cosmos, zinnias—drought-resistant and require minimal care.
    - **Vegetables**: Kale, radishes, zucchini—fast-growing and do not require extensive attention.
- **Drought-tolerant plants**: Choosing plants that thrive in dry conditions reduces the need for frequent watering, which is beneficial for gardens with limited water access or for gardeners who prefer to avoid the strain of lifting heavy watering cans.
- **Pest Resistance:** Choosing pest-resistant plants can significantly reduce maintenance needs while promoting a healthier, more self-sustaining garden. If certain pests are common in your growing space, incorporating naturally repellent plants can help deter them without requiring intensive pest management.
- **Groundcovers**: Low-maintenance groundcovers, such as creeping thyme or clover, help suppress weeds and reduce the need for weeding while providing visual appeal. However, they still require some upkeep. For minimal maintenance, mulching is a great alternative.
- **Perennials over annuals**: Selecting perennials means less replanting each season, which reduces labor and ensures a consistent garden design year after year.

Seasonal and Local Plants

Selecting plants that are well-suited to the local climate and seasonal conditions reduces maintenance while promoting sustainability. By prioritizing native and seasonal plants, gardeners can create a thriving space that supports local biodiversity while requiring less effort to maintain.

- **Examples of seasonal plants**: Native wildflowers, summer squash, fall kale—these plants thrive in specific growing seasons with minimal intervention.

- **Drought-resistant native plants**: Using native plants can significantly reduce the need for supplemental watering, making gardening more accessible for individuals with limited mobility.

Native Plants

Native plants are well-suited to local weather conditions and typically need less water and care than non-native species. They also attract pollinators, which are essential for the growth of many fruits and vegetables and help support a balanced ecosystem. Durable and low-maintenance, native plants are great for areas without accessible planters and usually don't need to be replanted each year. However, like all plants, they should be maintained to prevent overgrowth into walkways or other accessible areas.

Safe Plants

Creating a safe and inclusive gardening environment means choosing plants that minimize risks while maximizing accessibility for all gardeners. Avoiding plants with strong allergens, toxic sap, or sharp thorns ensures that everyone—including children, people with memory impairments, and individuals with intellectual and developmental disabilities (IDD)—can engage independently and confidently in the garden.

- **Prioritizing Non-Toxic Plants** – If your garden is open to a diverse range of participants, consider limiting or removing plants that may be harmful to touch or consume. A safer environment promotes independence by reducing potential hazards, allowing all gardeners to focus on their gardening experience with confidence.
- **Clear Labeling** – Any plants that could cause irritation, allergic reactions, or toxicity should be clearly labeled with both visual and tactile signage. Use bold text, Braille, raised symbols, and well-known hazard icons to ensure all gardeners can identify potential risks.
- **Examples of Plants to Avoid** – Some plants, while common in gardens, may not be ideal for inclusive growing spaces:
    - **Roses:** Their thorns can cause injuries, especially for gardeners with low vision, reduced dexterity, or mobility challenges.
    - **Poison Ivy and Other Irritant Plants:** These can cause severe allergic reactions and should not be included in accessible gardens.
    - **Foxglove:** Frequently grown for its beautiful flowers, this plant is highly toxic if ingested, making it unsafe for community gardens with children or individuals who may explore by touch or taste.

    - **Spreading Vines:** Some plants put out vines that can spread rapidly. Tuber plants (potato, sweet potato), squashes can easily grow out of their containers and beds and become tripping hazards.
- **Food-Based Allergies:** If a member has a known allergy to a specific plant or food, make sure to communicate or properly label or sign, or consider removing or not planting in garden. Always ask others food allergies before giving or working with specific food or plants.

Sensory Plants

A well-designed garden should engage multiple senses, making it more enjoyable and accessible for individuals with vision, sensory, or cognitive disabilities. By incorporating plants that stimulate touch, smell, taste, sight, and sound, the gardening experience can become more interactive and immersive.

- **Touch**: Lamb's ear, native grasses, moss — soft and inviting textures.
- **Smell**: Lavender, basil — fragrant plants that can be calming and familiar.
- **Taste**: Cherry tomatoes, strawberries — safe and enjoyable for snacking.
- **Sight**: Sunflowers, petunias, dahlias — bright, high-contrast colors are easier to see for individuals with low vision.
- **Sound**: Bamboo, switchgrass — rustling leaves provide calming auditory stimulation.

For gardeners with low vision, high-contrast colors, such as bright reds, oranges, and pinks, are easier to distinguish than greens, blues, and violets. Additionally, incorporating plants with a variety of textures and scents can create a more accessible and immersive environment. See the Sensory Inclusion section for more information.

Planting Arrangements

The way plants are arranged in a garden can impact accessibility, plant health, and overall ease of maintenance. Strategic planting methods such as companion planting, intensive gardening, and other grouping strategies can make gardening more efficient and inclusive. Every plant is different, corn for example needs to be planted in larger groups in order to properly cross pollinate. Research your plants and see what requirements each need and if one of these, or another planting technique works best.

Companion Planting

Companion planting is a technique that involves pairing plants together to enhance growth, deter pests, and improve soil quality. This method reduces the need for chemical pesticides and fertilizers, making it a more sustainable and accessible gardening approach.

- **Examples of companion planting**:
    - **Marigolds with tomatoes**: Marigolds naturally repel nematodes and other pests, reducing the need for intervention.
    - **Beans with corn**: Beans fix nitrogen in the soil, improving fertility, while corn stalks provide natural trellises for climbing bean vines.

Intensive Gardening

Intensive gardening focuses on maximizing space and minimizing maintenance by reducing the amount of bare soil exposed. This technique can be particularly useful in accessible gardens where space is limited.

- By using techniques such as vertical gardening, raised beds, and square-foot gardening, plants can be arranged more efficiently to reduce the need for excessive watering and weeding.
- Tightly spaced plantings help shade the soil, retain moisture, and suppress weeds, reducing the need for frequent maintenance.

Grouping Plants

There are many ways of organizing your plants within a garden space that can increase the ease of maintenance.

- **Grouping by watering needs:** To make watering more accessible and efficient, plants should be arranged based on their water requirements. Placing a water source near high-need plants reduces the amount of lifting and carrying required for watering.
- **Grouping for orientation:** Arranging plants in a specific and identifiable way makes it easier to locate them and maintain organization in raised beds or container gardens. This can help quicky identify plants versus weeds and orient to your garden space easier. Arranging plants in groups of three to five or planting crops in straight rows with rope guides can help individuals with vision impairments or cognitive disabilities maintain an organized layout.
    - **How rope guides work:** Using a rope with evenly spaced knots stretched between two stakes can indicate where plants were planted.

- **Grouping by size:** It is important to consider whether the height of size of a plant may limit access to them, making it more difficult to tend to. Make sure to place tall plants somewhere that is both easily accessible but not blocking access to any other section of the bed or growing space. For example, planting a row of lettuce in front of tomato plants allows you to access both without having to lean into the bed itself.

Planting Guides

Creating clear and organized planting guides ensures that all gardeners can easily identify, navigate, and tend to plants with confidence. Using **visual, tactile, and structural markers** makes the gardening space more accessible and inclusive.

- **Dividers and Soil Grids** – Using dividers within garden beds helps group plants clearly, making it easier to recognize different crops, assist with labeling, and navigate the planting area. Grids can be made from string, wooden slats, or other non-toxic materials.
- **Printed Plant Labels** – Labels help gardeners identify plants with ease. Ensure labels are printed rather than handwritten so they can be read by screen readers.
- **Picture-Enhanced Labels** – Including images on plant labels benefits gardeners who do not read English, process visual information more effectively, or prefer pictorial references.
- **Tactile Markers** – Wooden dowels, raised borders, rope guides, or textured surfaces can define planting rows, supporting gardeners who are blind, low vision, or rely on touch-based navigation.
- **Color-Coded Stakes and Labels** – Using different colors to mark planting areas can provide a quick reference for gardeners. Pairing color codes with tactile symbols or raised markings ensures accessibility for gardeners who are blind, low vision, or color-blind.

Seed Sowing, Transplanting, and Soil Preparation

Accessible planting techniques ensure that all gardeners can successfully plant seeds without excessive bending, strain, or fine motor challenges.

Seed Sowing

Gardeners of all abilities can successfully plant seeds with the right tools and techniques. For individuals with dexterity or mobility differences, adapted seeders and alternative planting

methods provide greater ease, independence, and precision, ensuring an enjoyable and accessible gardening experience.

- **PVC Pipe Planting**: A simple angled PVC pipe allows gardeners to drop seeds into the soil from a seated position, reducing the need for bending.
- **Seed Tape and Pre-Spaced Strips**: These ensure even planting without requiring precision. DIY Seed Strips can be made with recycled paper or damp toilet paper
- **Knotted String Guides**: Stretching a pre-marked rope between stakes provides a tactile guide for placing seeds at proper intervals. Seeds can be planted along each knot, pushed in with a finger to the proper soil depth and covered.
- **Pelleted Seeds:** Pelleted seeds have a clay coating that can make them easier to see and grab.
- **Adaptive Tools:** Using a seeder can make it easier to plant seeds, especially smaller ones. There are many features that can increase accessibility, such as ergonomic handles and automatic dispensing capabilities. If using more traditional gardening tools such as a spade, they can be adapted to have longer or more ergonomic handles and grip aids.

Transplanting

Transplanting requires careful handling of seedlings and soil, but there are many ways to make the process more efficient and comfortable.

- **Container Centering Method** – When transplanting into a pot, place a smaller pot in the center of a larger container filled with soil. Plant around the edges, then remove the smaller pot to leave a perfectly sized space for the final plant.
- **Soft-Grip and Long-Handled Tools** – Using trowels, dibbers, or auger tools with extra grip support and an ergonomic design can help create uniform planting holes without strain.
- **Raised or Elevated Workspaces** – Transplanting in raised beds, tabletop gardens, or containers reduces the need for bending and kneeling. Rolling stools or kneelers with hand supports offer additional comfort and stability.
- **Soil Scooping and Filling Aids** – Lightweight scoops, flexible funnels, and wrist-support gardening gloves make soil transfer easier. Pre-moistening soil before transplanting can also help seedlings settle into place with less effort.

Soil Preparation

The quality of the soil significantly impacts plant health. Soil should be loose, well-draining, and light to accommodate gardeners with limited strength or grip challenges.

- **Pre-mixed soils:** Purchasing ready-to-use soil and potting mix products can limit the exertion involved in supplementing the soil of a growing space
- **No-till and Low-till methods:** Tilling can be physically demanding, and no till methods have been shown to be effective at maintaining soil health over time. Adopting no till methods of maintaining soil may increase the accessibility of soil maintenance
- **Managing transportation:** Moving soil in smaller batches can get the job done with less fatigue and exertion. Partially filling buckets, using proper ergonomics, and utilizing adaptive tools can all reduce the physical exertion of moving soil. Many commercial garden centers do deliveries of soil and other materials for larger amounts or projects
- **Rest Breaks:** It is also important to manage exertion through regular breaks. Having a shaded area available for seating and drinking water access can facilitate recovery from exerting tasks. For those who may forget to take breaks, setting timers may help.

Weeding

Weeding is often considered one of the more labor-intensive gardening tasks, but thoughtful planning and adaptive strategies can minimize effort and repetitive motions while maintaining a well-kept garden.

Preventative Weeding Strategies

- **Mulching Techniques:** A 2–4 inch layer of mulch suppresses weeds, retains soil moisture, and reduces the frequency of weeding. Organic mulches like wood chips, straw, or leaf mulch naturally break down over time, enriching the soil.
- **Biodegradable Mulch Mats:** Pre-cut mats create clean planting rows, reducing maintenance needs by blocking weed growth while allowing plants to thrive.

Adaptive Weeding Techniques

- **Hand Weeding with Tactile Identification:** Learning to recognize weeds by shape, touch, or smell can help individuals with low vision or cognitive disabilities distinguish between weeds and desirable plants.
- **Photo and Visual Guides:** Providing pictures or labeled examples of weeds vs. desirable plants supports independent weeding for individuals with IDD or memory impairments.
- **Rotation of Tasks:** Switching between weeding, planting, and watering throughout a gardening session prevents overuse of specific joints and muscles, reducing fatigue.
- **Raised Planters:** Elevated garden beds reduce bending and kneeling, making it easier to remove weeds at a comfortable height.

- **Assistive Training and Job Coaching:** For group gardening environments, on-site coaching and peer support can help gardeners learn techniques in a way that meets their strengths.

Ergonomic Weeding Tools

- **Weed and Root Remover Tool:** Long-handled weed pullers reduce bending by allowing gardeners to extract weeds while standing or seated.
- **Enlarged Tool Handles:** Wrapping tool handles with dense foam grips improve comfort and ease of use for individuals with arthritis or limited hand strength.
- **Collapsible Garden Bucket:** For gardeners using wheelchairs or mobility aids, a lightweight, collapsible bucket makes transporting weeds and clippings easier and more space efficient. The bucket can be stored compactly when not in use and easily carried to the compost area.

Weed Safety

Some weeds can cause skin irritation or allergic reactions when touched. Common examples include stinging nettle, wild parsnip, and poison ivy. These plants can be harmful to everyone, but it's especially important to ensure safety measures are in place for gardeners with sensory sensitivities or skin conditions, people who are blind or low vision, and children and adults who explore plants by touch.

Encourage the use of gloves and long sleeves when weeding, and train gardeners to flag or report any suspicious plants. When potentially harmful weeds are identified, remove them as soon as possible and share updates about affected areas using multiple accessible formats such as tactile markers, visual signs, spoken announcements, or a shared bulletin board.

Pruning

Pruning keeps plants healthy by removing dead or overgrown branches. Using adapted tools and safe techniques ensures that pruning remains a low-strain, accessible task.

Techniques for Accessible Pruning

- **Tactile Guidance for Pruning:** When pruning shrubs, follow the branch to be removed with your hand until you find where it meets the main limb or trunk. Using one-handed pruning shears or a limb saw makes cutting precise and efficient.

- **Accessible Pruning Schedules** – Certain plants do better when pruned at the right time of the season. Shrubs and small trees often need pruning in winter or during dormancy, while leafy plants and vegetables may require regular pruning throughout the growing season. Choosing plants based on when and how often they need care supports gardeners with limited availability, seasonal energy shifts, or chronic fatigue by making plant maintenance more manageable.
- **Pruning Plants with Thorns:** Wearing gloves with a hole for the lower tip of the index finger allows gardeners to gently locate thorns by touch before cutting, reducing risk of scratches.
- **Espalier Fruit Tree Pruning:** Gardeners who prefer to work at waist or seated level can enjoy pruning espaliered fruit trees, which grow against trellises or walls at an accessible height for easy maintenance.

Adaptive Pruning Tools

- **Ratchet Pruners:** These pruners require less force than standard models, making them ideal for gardeners with limited hand strength or arthritis.
- **Telescoping Pruners:** Extendable handles allow for pruning without reaching or using a ladder, making them ideal for seated or standing gardeners.
- **Ergonomic Hand Pruners:** Pruners with soft, contoured grips and spring-loaded cutting action reduce hand fatigue during extended use.

Harvesting

Accessible harvesting ensures that all gardeners can collect produce efficiently and comfortably, reducing unnecessary strain while maintaining independence and engagement in the garden.

Safe Harvesting Techniques

Traditional harvesting methods may require bending, reaching, or handling sharp tools, which can be challenging for some gardeners. By incorporating adaptive techniques and tools, all gardeners can harvest with confidence and ease.

- **Stoplight Sign System**: A color-coded system (red = not ready, yellow = almost ready, green = ready) provides a clear visual for harvest readiness. To ensure that everyone can use this system, include tactile markers, large-print text, and Braille. This way, gardeners who are blind, low vision, or color-blind can independently assess when produce is ready for harvesting.

- **Raised Planters and Vertical Gardening**: Bringing crops closer to eye level allows gardeners to harvest from a seated position, use mobility devices effectively, or minimize bending. Tabletop beds, trellises, hanging baskets with pulley systems, and elevated planters create opportunities for gardeners to engage in harvesting in ways that work best for them.
- **Adaptive Harvesting Tools**: Tools designed for precision, comfort, and efficiency can help gardeners harvest with less effort and more control. Recommended tools include:
    - **Long-handled pruners and shears** for extended reach without strain.
    - **Easy-grip, ratcheting, or loop-handled shears** that provide greater control with less effort, ideal for gardeners with arthritis or low grip strength.
    - **Soft-padded, lightweight harvesting baskets/bags** that distribute weight evenly and reduce strain.
    - **Rolling harvest carts** allow gardeners to transport produce with ease.

Composting

Composting is a powerful sustainability practice that transforms food and garden waste into rich soil. To ensure that all gardeners can actively participate in composting, it's essential to use methods that are efficient, ergonomic, and easy to manage.

Accessible Composting Methods

- **Tumbling Compost Bins**: Designed for effortless turning, these bins eliminate the need for manual lifting. Models with crank handles or foot pedals provide a low-energy, high-impact way to mix compost efficiently.
- **Low-Height Compost Piles**: Keeping compost at an accessible height (20–34 inches) allows gardeners to easily add and remove materials without excessive bending or lifting. Raised compost bins with side-access doors offer a convenient way to scoop compost at a comfortable level.
- **Color-Coded and Tactile Sorting Labels**: Including raised-text, Braille, or textured markers on bins for "greens" (e.g., food scraps) and "browns" (e.g., dried leaves) ensures that all gardeners can independently and accurately sort compost materials.
- **Rolling Compost Bins or Carts**: These allow gardeners to move materials efficiently, reducing the need for heavy lifting.

- **Accessible Tool Storage**: Composting tools should be stored at a reachable height and labeled with clear visual and tactile markers. This ensures that all gardeners can easily locate and retrieve the tools they need.
- **Ergonomic Hand Tools**: Tools with lightweight materials, D-grip handles, and extended handles support effective composting while reducing wrist and joint strain.

Sensory Inclusion

Section Summary

Gardening is a sensory-rich activity that can be joyful, grounding, and deeply engaging—but for people with sensory processing differences, it can also feel overwhelming. This section outlines how to create inclusive gardens that honor a wide range of sensory needs.

- **Design for Sensory Diversity** – Sensory-friendly gardens offer both stimulation and retreat. Provide options to engage or step away, and use clear layouts, predictable routines, and calm visual design to reduce sensory overload.
- **Support Sensory Hypersensitivity** – Offer gloves, hats, noise-reducing gear, or arm sleeves for tactile and auditory comfort. Use mulch, hydroponics, or landscape fabric to reduce soil contact. Create shaded, low-stimulation areas with seating for rest and regulation.
- **Support Sensory Hyposensitivity** – Include bold colors, textured plants, rustling grasses, edible herbs, and active gardening tasks (like digging or watering) for those seeking deeper input. Add movement-friendly features like textured paths, climbing vines, or trellises.
- **Build a Sensory Garden** – Divide spaces into "zones" for touch, taste, smell, sound, and sight. Prioritize gentle color palettes in rest areas and vibrant contrasts where sensory play is encouraged. Include non-plant features like water sounds or wind chimes.
- **Use Multi-Sensory Plant Choices** – Choose plants with contrasting textures (moss, coneflower), strong or calming scents (lavender, basil), and edible components (strawberries, snap peas). Avoid toxic plants and use tactile/visual signage for plant safety.
- **Incorporate Accessible Social Stories** – Social stories help gardeners prepare for sensory experiences and routines. Use plain language, step-by-step visuals, maps, and safety info. Offer in printed, digital, and audio formats, and adapt for different events.

Introduction

Gardening is a multi-sensory activity, engaging sight, sound, touch, smell, and sometimes taste. While this can be a source of joy, it can also be overwhelming for individuals who experience sensory processing differences, including many autistic people. Sensory-rich environments like gardens can be unpredictable— textures in the soil may vary, insects may appear suddenly, and sounds like buzzing, birdsong, or machinery can start without warning textures of soil, the sound of birds or machinery, the feel of water, and even unexpected social interactions can create barriers to participation.

What is Sensory Sensitivity?

Sensory sensitivity is a natural variation in the way you process information through your eight senses: vision, hearing, smell, taste, touch, movement, balance, and internal body awareness (interoception). While it is often associated with autism and neurodivergence, many people have differences in sensory processing.

Hyposensitivity vs Hypersensitivity

Sensory sensitivity can include hypersensitivity and hyposensitivity. ***Hypersensitivity*** is when you are very sensitive to some form of stimuli and is often associated with feeling pain, discomfort, and/or overwhelmed by a certain sensory experience. This may lead someone to avoid certain textures, bright lights, or loud noises. ***Hyposensitivity*** is when you have a reduced reaction to a form of stimuli. This can lead to having difficulty noticing certain sensory experiences or changes in sensory inputs like changes in temperature, noticing pain, or hearing certain sounds. This can also lead to someone seeking out more intense sensory experiences, such as loud noises, strong textures, or repeating a certain action for the sensory experience. People can experience both hyposensitivity and hypersensitivity to different things, so it is important to consider both when designing a garden space.

Creating a Sensory-Friendly Environment

Because people have different sensory needs, the garden should allow for both engagement and retreat. Here are three general tips for creating a sensory-friendly environment:

- ***Offer choices****:* People can move toward areas that stimulate their senses or step away from areas that feel overwhelming.
- ***Ensure predictability****:* Signage, clear paths, and structured layout help visitors know what to expect.
- ***Minimize overstimulation****:* While sensory gardens are designed to be engaging, they should not be visually cluttered or overwhelming. Areas of textured green plants can provide calm between more stimulating sections.

Sensory sensitivities vary widely from person to person, so it's essential to create a space where individuals can express their own needs and preferences. There is no single way to make a garden sensory-friendly—what works for one person may not work for another. The best approach is to offer a range of options that allow individuals to choose what supports them best. Centering the preferences of your existing community ensures that accessibility efforts are meaningful and inclusive. Below are some strategies to consider offering for different sensory experiences, divided into strategies for hypersensitivity and hyposensitivity.

Strategies for Sensory Hypersensitivity

Some strategies for minimizing unwanted sensory input include:

- **Wear Protective Gear**:
    - ***Gloves:*** Some individuals may dislike the texture of soil, rough plant surfaces, or wet leaves. Lightweight, soft-fabric gloves (such as cotton or bamboo gloves) can help reduce discomfort.
    - ***Sleeves or Arm Protectors:*** For those sensitive to plant stems or rough foliage, long sleeves or gardening arm covers can help minimize contact.
    - ***Sunglasses and Hats:*** Bright sunlight can be overstimulating. Wide-brim hats and tinted sunglasses can reduce glare and visual overload.
- **Offer Alternative Growing Methods**:
    - ***Hydroponic Gardening:*** For individuals who dislike the sensation of dirt, hydroponic growing (using water instead of soil) allows for plant care without direct contact with soil.
    - ***Mulched or Fabric-Covered Beds:*** Using mulch, coconut coir, or landscape fabric can reduce direct exposure to soil while still allowing for traditional gardening methods.
- **Reduce Unpredictable Sensory Input**:
    - ***Control Noise Levels:*** Some gardeners may be sensitive to loud or sudden sounds, such as buzzing insects, rustling leaves, or nearby conversations. A designated quiet zone, scheduled quiet hours, noise canceling headphones, or sound-buffering shrubs can provide relief.
    - ***Minimize Strong Smells:*** While fragrant plants can be a pleasant sensory experience, some people find strong floral or herbal scents overwhelming. Keeping highly fragrant plants in a separate area or allowing for distance between them and seating areas can be helpful.
- **Provide Sensory Retreat Spaces**:
    - Some gardeners may need a low-stimulation area to take breaks. Seating areas with dense foliage, shaded pergolas, or trellises can provide a visual and auditory break from the more stimulating parts of the garden.

Strategies for Sensory Hyposensitivity

Some individuals, particularly those with sensory-seeking behaviors or reduced sensory sensitivity (hyposensitivity), may need enhanced stimulation to fully engage with the garden environment. A well-designed growing space should provide engaging, intensified sensory input in a structured and safe way while still allowing for personal choice in how individuals interact with the space. Some strategies might include:

- **Hands-On Interaction**
    - *Direct Contact with Soil and Plants:* Some gardeners may enjoy the feel of soil on their hands. A designated digging area with soft, rich soil encourages tactile exploration.
    - *Plants with Strong Textures:* Some plants can offer deep sensory input, such as:
        - *Prairie Dropseed* – A soft, flowing grass that provides a dynamic tactile experience.
        - *Purple Coneflower* – Rough stems and spiky seed heads add varied textures.
- **Movement and Deep Pressure**
    - *Raised Garden Beds with Built-In Ledges:* Some individuals may seek pressure input from leaning against surfaces. Raised beds with sturdy ledges allow for safe grounding and physical support.
    - *Pathways with Varied Textures:*
        - Crushed stone or textured pavers provide varied sensations underfoot, engaging proprioceptive awareness.
        - Tactile steppingstones with different surface textures (smooth, bumpy, grooved) can create an interactive walking path.
    - *Active Gardening Tasks:* Activities like raking, digging, and carrying water can provide regulating, grounding input for those who seek movement.
- **Create a Sensory Garden (see more in section below)**
    - *Use Bright, High-Contrast Colors*: Gardeners with low visual sensitivity may benefit from vibrant color contrasts to better navigate and engage with the space.
    - *Incorporate Elements that Move and Create Sound*: Wind chimes, rustling grasses, and water features provide continuous auditory feedback.
    - *Strongly Fragrant and Edible Plants*: Gardeners with a reduced sense of smell may enjoy working with intensely scented plants
    - *Encourage Safe Taste Exploration:* Plant edible crops that provide bold flavors and varied textures
- **Heavy Work and Deep Engagement**

- Gardening tasks such as digging, pushing a wheelbarrow, and carrying water cans can provide calming deep pressure input for those who seek proprioceptive engagement.
- Vines on trellises (e.g., Virgin's Bower (Clematis virginiana)), allow gardeners to interact with vertical elements and use their hands for climbing, gripping, or weaving plant stems.

Sensory gardens

A sensory garden is designed to provide a rich, multi-sensory experience for all gardeners, particularly those with sensory processing differences, including autistic individuals and people with sensory sensitivities. While all gardens engage our senses to some degree, a well-designed sensory garden ensures that plants, textures, colors, scents, and sounds are intentionally chosen and arranged to offer a variety of sensory experiences in a structured and accessible way.

A sensory garden can serve multiple purposes:

- Creating a calm and welcoming space for those who may find typical gardening environments overwhelming.
- Encouraging engagement with nature through touch, smell, sight, sound, and taste.
- Providing options for self-regulation, allowing gardeners to explore or avoid different sensory experiences based on their personal comfort levels.

Designing a Sensory Garden

A well-balanced sensory garden allows individuals to seek out the stimuli they enjoy while also providing areas of calm and retreat for those who may need a break. Considerations for the design of sensory gardens are:

- Dividing the garden into different sensory zones, so individuals can engage with the senses they enjoy while avoiding those that may cause discomfort.
- Using mostly textured greens and cool colors (such as blues, purples, and soft greens) to create a calming atmosphere.
- Avoiding overly bright or hot colors (such as reds and oranges) in areas meant for relaxation.
- Ensuring clear paths and signage so individuals can navigate the space comfortably and make choices about their level of engagement.
- Avoiding any toxic or poisonous plants

    - Some gardens may choose to only include edible plants, particularly those designed for children
- Providing seating and shaded areas for rest and sensory regulation.

Sensory Features and Plant Recommendations

Each sense can be engaged intentionally through plant choices and structural elements. Below are Pennsylvania-native plant examples where possible.

Sight: Bold Colors and Movement

- **Bright & High-Contrast:** Bold colors and strong visual contrast make plants easier to see and create a vibrant, engaging garden.
    - Sunflowers: Tall, bold blooms with bright yellow petals and dark centers for strong contrast.
    - Nasturtiums: Vibrant orange, red, and yellow flowers that stand out against green foliage.
    - Zinnias: Eye-catching flowers in a variety of bright colors that add visual diversity.
    - Marigolds: Golden yellow and orange flowers that provide high contrast and are easy to spot.
- **Gentle & Soothing:** Soft colors and delicate forms provide a calming visual experience for relaxation.
    - White Daisies: Classic white petals with bright yellow centers, offering a soft and inviting look.
    - Baby's Breath: Delicate white flowers that create a light, airy appearance.
    - Ferns: Lush, green foliage that adds a calming and textured visual element.
- **Plants That Move in the Wind:** Adding motion to the garden through plants that sway can create a dynamic and immersive experience.
    - Switchgrass: Tall, flowing grass that sways gracefully in the breeze.
    - Fountain Grass: Soft, feathery plumes that create movement and texture.
    - Butterfly Bush: A dynamic plant that attracts pollinators and adds motion to the garden.
- **Shaded Retreat Areas:** Cool, shaded spaces can provide visual relief and a quiet place to rest. Incorporating trellises, pergolas, or native climbing plants like Virgin's Bower can create a visually soothing refuge.

Smell: Gentle and Strong Scents

- **Mild, Calming Scents**: These gentle fragrances support relaxation and create a peaceful garden environment.
    - Lavender: A classic floral scent known for its calming and soothing properties.
    - Chamomile: A gentle, apple-like fragrance that promotes relaxation.
    - Lemon Balm: A fresh, citrusy scent that can uplift the senses.
    - Sweet Alyssum: A delicate, honey-like fragrance that is subtle yet pleasant.
- **Strong Herbal Scents:** Bolder herbal aromas can be invigorating and are often associated with cooking and sensory stimulation.
    - Basil: A sharp, peppery aroma often associated with cooking.
    - Rosemary: A strong, woody scent
    - Mint: A cool, refreshing scent that spreads easily in the garden.
    - Sage: An earthy, intense fragrance.
- **Fragrant Flowers:** These richly scented blooms enhance the sensory experience and attract pollinators.
    - **Jasmine:** A sweet, exotic fragrance that intensifies in the evening.
    - **Honeysuckle:** A rich, nectar-like scent that attracts pollinators.
    - **Gardenia:** A creamy, floral aroma that is highly fragrant.
    - **Lilac:** A fresh, springtime scent that is uplifting.

Placement Matters: Fragrant plants should be placed near walkways, entrances, or seating areas where people can engage with them intentionally. Strong herbal scents can be intense—consider placing them separately for those with hypersensitivity.

Touch (tactile): Varied Textures

- **Soft & velvety textures:** These plants offer comforting, gentle textures that invite touch and support sensory exploration.
    - Silver Sage: Soft, silvery leaves that are pleasant to touch.
    - Moss: A lush, cushiony ground cover that feels like a soft carpet.
    - Woolly Thyme: Small, fuzzy leaves that invite gentle touch.
- **Rough & Bumpy:** Plants with coarse or spiky features can add contrast for those who enjoy or seek out varied tactile experiences.
    - Purple Coneflower (Echinacea): Sturdy stems with rough leaves and a spiky central cone.
    - Globe Thistle: A round, spiky flower head that provides an interesting tactile contrast.

    - Corkscrew Rush: Twisting, curly stems that add a unique texture.
- **Feathery & Flowing:** Light, brushable textures can be soothing and create movement that enhances sensory interaction.
    - Prairie Dropseed: Fine, airy foliage that sways with the wind.
    - Fountain Grass: Graceful, arching blades with soft, feathery plumes.

Taste: Edible and Safe to Explore

- **Fruits & Veggies:** Fresh, naturally sweet, or crisp plants that provide an easy and rewarding way to engage taste.
    - Strawberries: Juicy, sweet berries that are easy to pick and enjoy.
    - Cherry Tomatoes: Bite-sized, flavorful tomatoes that add a burst of taste.
    - Sugar Snap Peas: Crisp, sweet pods that are great for snacking right off the vine.
- **Edible Flowers:** Colorful blooms that add both visual beauty and a mild, pleasant taste to dishes.
    - Nasturtiums: Peppery, slightly spicy flowers that are great for salads.
    - Pansies: Mild, slightly grassy flavor with a hint of sweetness.
    - Calendula: Bright, tangy petals often used in teas or as a garnish.
    - Borage: Cucumber-like taste with vibrant blue flowers.
- **Aromatic Herbs:** Strongly scented plants that enhance taste and smell, making them engaging for multiple senses.
    - Dill: A fresh, tangy herb often used in pickling and cooking.
    - Chives: Mild onion-like flavor that pairs well with many dishes.
    - Thyme: A versatile herb with a subtle earthy and lemony taste.
    - Lemon Verbena: Bright citrus flavor that enhances teas and desserts.

Safety Note: Ensure edible plants are grown away from areas where pesticides or chemical fertilizers may be used.

Sound: Interactive and Wind-Friendly

- **Rustling Leaves:** Plants with delicate or broad leaves that create soothing sounds when moved by the wind.
    - Bamboo: Tall stalks with thin leaves that create a whispering, rustling sound.
    - Weeping Willow: Long, flowing branches that sway and produce soft sounds in the breeze.
    - Quaking Aspen: Distinctive round leaves that tremble and shimmer with the slightest wind.

    - Seed Pods That Rattle: Plants with dry seed pods that create a gentle rattle, adding texture to the garden soundscape.
    - False Indigo: Produces seed pods that rattle in the wind, adding a soft percussion-like sound.
    - Love-in-a-Mist: Delicate seed pods that create a gentle, soothing rattle as they dry.
- **Attracts Birds & Pollinators:** Plants that bring the sounds of nature by drawing in songbirds, bees, and other wildlife.
    - Bee Balm: A pollinator favorite that attracts buzzing bees and fluttering butterflies.
    - Black-eyed Susan: Bright flowers that invite a variety of pollinators, enhancing the garden's natural sounds.
    - Salvia: A nectar-rich plant that attracts hummingbirds and buzzing bees.
- **Non-Plant Elements:** Wind chimes, water features, or textured surfaces (like gravel paths) can add gentle sound without overwhelming the environment.

Social Stories

Social stories are an evidence-based tool designed to support individuals with intellectual and developmental disabilities by providing clear, structured narratives about what to expect in a given environment. But social stories can benefit everyone as they help reduce anxiety, increase confidence, and prepare gardeners for sensory experiences in a way that feels safe and predictable.

It is best to have a social story available about what to expect for a general garden visit, however specific events may also require a social story since the expectations of what someone will be doing have changed. Whenever possible, have a social story available for when someone would like to visit, and consider creating additional ones for specific community events, workshops, or workdays. This could be a great task for a garden member; garden leaders could create a general social story, but perhaps a garden member or member(s) could volunteer to make additional social stories on an as-needed basis.

How to Create and Use Social Stories Effectively

1. Identify the Key Gardening Activities and Sensory Experiences
    a. Consider which gardening activities might require a social story, such as planting seeds, watering plants, using tools, interacting with other gardeners, or harvesting crops.
    b. Identify potential sensory experiences that could be unfamiliar or overwhelming, such as the feel of wet soil, the sound of bees buzzing, or the smell of compost.
2. Use Clear and Simple Language

    a. Social stories should be written in plain, concise language with step-by-step descriptions of what will happen.
    b. Use first-person language when possible (e.g., “I will put on my gloves before I touch the soil”).
3. Incorporate Visual Supports
    a. Include pictures, symbols, or drawings to reinforce each step. These can be real photographs of the garden, simple illustrations, or picture communication symbols (such as PECS).
    b. Include a site map to indicate exits, numbered plots, water source, shed, first aid kit, restrooms, etc.
    c. Pair text with images to support individuals who process information visually.
4. Emphasize Predictability and Routine
    a. Describe what typically happens in a gardening session to establish predictability (e.g., “First, we gather our tools. Then, we dig a hole. Next, we plant the seed and cover it with soil”).
    b. Mention what might change and how to handle it (e.g., “Sometimes the soil might be very dry or wet. That is okay. I can still plant my seeds.”).
5. Provide Coping Strategies for Sensory Challenges
    a. Acknowledge that some sensations might be new or unexpected, and offer strategies to manage discomfort (e.g., “The sun might feel hot, so I can take breaks in the shade” or “If the gloves feel too tight, I can try a different pair or take breaks when I need to”).
    b. Offer Opportunities to choose from a number of different activities if necessary.
6. Make Social Stories Accessible and Portable
    a. Print and laminate social stories so they can be taken into the garden.
    b. Create digital versions that can be accessed on a tablet or smartphone.
    c. Consider audio-recording the story for individuals who benefit from listening instead of reading.
7. Include Safety Steps
    a. Include clear information in the social story about where to find the first aid kit, using both visual cues (like symbols or photos) and a labeled location on a garden site map.
    b. Create Social Story Cards for Emergencies: short, visual step-by-step guides that can be built into the main social story or used as quick reference tools. These cards can cover:
        1. CPR
        2. Basic first aid (e.g., cuts, stings)
        3. Heat safety and how to cool down

4. How to use an EpiPen for allergic reactions

c. Build in a preparation checklist at the start of the story to help gardeners get ready. This might include packing water, putting on sunscreen, wearing gloves, or bringing mobility tools or assistive devices.
d. Make sure the social story includes where to find emergency contact information and who to talk to if help is needed.

If the garden requires a waiver, explain what it is and why it's needed in plain language within the story. This helps reduce uncertainty and supports informed participation.

Examples

Please see our website for examples of social stories for growing spaces

Managing Emotional Activation

Section Summary

Emotional accessibility is just as important as physical access. Community gardens are shared spaces where stress, sensory overload, or emotional activation may arise. By offering supportive tools, clear expectations, and flexible responses, gardeners can feel safe, respected, and empowered to participate fully.

- **Normalize Emotional Activation** – Anyone can have a tough moment. Offering calm, nonjudgmental support helps reduce shame and strengthens community care.
- **Support Self-Regulation** – Create low-stimulation areas for rest, and encourage grounding tasks like weeding or watering. Offer sensory tools (fidget items, scented herbs), mindfulness strategies, and clear options for solo or social regulation.
- **Use Respectful De-escalation** – If someone is elevated, listen patiently, stay calm, and ask if they want help. Presume competence, respect boundaries, and avoid judgmental language. Never tell someone to "calm down"—offer space, validation, and choice.
- **Center Dignity and Autonomy** – Every person is the expert on their own needs. Offer support only when welcomed. Treat adults as adults and honor different ways of processing and coping.
- **Use Visual Supports and Signals** – Optional lanyards, signs, or social stories can communicate needs and expectations clearly and reduce emotional strain.
- **Know When and How to Refer** – Offer warmline or helpline info (like 988 or NAMI) if someone is open to outside support. Help them contact trusted people if needed.

Introduction

Community gardens are shared spaces where people connect, grow food, and build community. Like any public space, moments of frustration or emotional activation can happen. While it's not anyone's job to regulate another's emotions, creating a supportive environment with clear expectations and self-regulation tools helps ensure all gardeners feel safe, respected, and welcome.

Emotional accessibility is just as important as physical accessibility—when people feel supported and confident, they are more likely to fully participate. Emotional activation can happen to anyone, at any time, regardless of whether they have a mental health condition or other disability. You've likely used or benefited from de-escalation tools, maybe without realizing it!

Everyone experiences stress and self-regulation differently, and what works for one person may not work for another. A flexible, understanding approach helps all gardeners stay engaged and comfortable in the space.

Story Example: Emotional Activation can Happen to Anyone!

Think back to a time when you were having a rough day, and it just kept getting worse.
You've had one of those days where everything goes wrong: you wake up late, step in a puddle, and your boss interrupts you before you can even sit down. The printer is jammed, you forget your lunch, and when you finally get to the community garden after work, the tools you need aren't there. You've got plants to tend, but someone's left the water hose tangled, and it's just one more thing going wrong. Frustration builds, and you snap at the gardener nearby, but it's not about the hose—it's everything else piling up.

The gardener could escalate the situation by snapping back, making things worse. But instead, they stay calm, give you some space, and acknowledge your frustration. They offer to untangle the hose for you, showing understanding and kindness. That simple act of patience helps to cool things down and turns your day around.

Self-Regulation in the Garden

Having self-regulation tools available allows you and other gardeners to pause, reset, and return to the space feeling more comfortable and in control. Encouraging self-regulation supports emotional accessibility, ensuring that all gardeners have ways to engage in a way that feels safe, welcoming, and empowering.

Below are some strategies to self-regulate in a garden space:

- **Engage in Repetitive, Grounding Tasks:** Activities such as weeding, watering, planting, and raking provide structured, rhythmic movement, can help relieve stress and promote focus. The predictability of these tasks can offer a sense of stability and calm.
- **Use Sensory Stimulation for Regulation:** Engaging the senses can help shift focus and bring awareness back to the present moment. Running hands through soil, crushing scented herbs, feeling textured leaves, or tasting edible plants can be grounding and soothing. Listening to birds, wind, or rustling plants can also provide a natural calming effect.
- **Spend time in a Quiet Area:** Having a designated low-stimulation space allows gardeners to take a break when needed. Providing seating, shade, wind chimes, or a small water feature can create a peaceful environment for rest and self-regulation. Quiet hours can also be scheduled for those who prefer a calmer, less stimulating experience.
- **Use Movement to Reset:** Physical movement can help release tension and regulate emotions. Walking along a garden path, stretching, carrying water, or engaging in gentle gardening activities like digging can provide a physical outlet for stress relief.
- **Practice Breathing and Mindfulness Techniques:** Taking slow, intentional breaths, pausing to observe the sights, sounds, and smells of the garden, or engaging in simple grounding exercises can help restore emotional balance.
- **Sensory Tools:** Having fidget items, textured stones, or small handheld garden tools available can support self-regulation. Offering cool water, scented herbs, or a shaded area to rest can also be beneficial for those who need sensory input to regulate emotions.
- **Encourage Social or Solo Regulation:** Some gardeners may prefer quiet time alone, while others may need a conversation or gentle engagement to help regulate emotions. Creating a system for signaling the need for space or support, such as optional lanyards, badges, or garden guidelines, allows people to communicate their needs comfortably.

Supporting Others in Moments of Emotional Activation

While self-regulation tools can help many gardeners manage their emotions, there may be times when someone is struggling to regulate on their own. In these moments, compassionate and thoughtful responses from others can help create a safe, supportive environment.

It’s important to remember that anyone can experience dysregulation, and it’s not about judgment or blame. Frustration, sensory overload, or emotional distress can happen for many reasons, and how a person responds may look different from one moment to the next. While it’s not your responsibility to "fix" the situation, having de-escalation strategies can help reduce tension, maintain safety, and support someone in regaining control in a way that respects their needs and autonomy.

The following section provides practical, strength-based approaches to de-escalation, ensuring that the garden remains a welcoming and inclusive space for everyone, even in challenging moments.

Dignity and Presuming Competence

At the core of supporting someone during moments of dysregulation is the belief that every person is worthy of respect and autonomy. Dignity means recognizing that all individuals deserve to be treated with honor and respect, regardless of their emotions or behaviors in a given moment. Presuming competence in this context means trusting that people understand their own needs and have the ability to navigate their emotions, even if they are struggling in the moment. By centering dignity and presuming competence, we ensure that any de-escalation efforts are rooted in respect, autonomy, and trust—creating an inclusive and empowering space for all gardeners.

Key Considerations for Respectful Support

- **Each person is the expert on their own life:** They know themselves and what they need better than anyone else. Trust that they have insight into what works best for them.
- **Avoid assumptions about ability:** Don't assume that someone can't handle a situation on their own just because they seem dysregulated. They may have their own strategies for working through it.
- **Ask before offering support:** Rather than stepping in immediately, check with the person first. A simple "Would you like help?" or "How can I support you?" respects their autonomy.
- **Use age-appropriate responses:** Treat adults as adults, regardless of their emotional state or communication style. Avoid patronizing tones or infantilizing language.
- **Respect individual preferences for support:** The way someone wants or needs help may differ from how you would prefer to be supported. Honor their requests, even if their approach is different from yours.

De-escalation Tips

De-escalation tools can be useful anytime it seems that a person is becoming disruptive or frustrated. In an attempt to prevent the situation from getting worse, you're putting water on the grill fire as opposed to throwing gas! Familiarizing yourself with common de-escalation tools may make you feel empowered to handle different situations that may arise in your community garden.

Key Strategies

- **Listen:** rather than focusing on talking to and solving problems, give them the space to talk. Truly listen to how they're feeling.
- **Provide reassurance:** Let the person know they are not alone and that you'll be there to support them.

- **Stay calm:** Even though it might be upsetting to see or hear that someone is distressed, try to stay calm yourself.
- **Be patient:** while you may want to ask questions to learn more about their thoughts and feelings, it's important to be patient and let them set the pace.
- **Try to avoid making assumptions:** Try not to assume you know why someone feels the way they do or what will help them.
- **Stay connected:** Follow up with them afterwards to see if they need additional support.

Additional Strategies

Many resources are freely accessible online which provide guidelines and tools for de-escalation. The Crisis Prevention Institute (CPI) offers a free document with 10 de-escalation tips.

These 10 tips are described in more detail in their resource, but are included here as a brief overview:

1. **Show empathy and avoid judgement:** Try to understand what the other person is feeling or experiencing, from their point of view. Avoid criticizing or forming larger opinions based on what you're seeing.
2. **Give people enough room:** Avoid entering their personal space- try standing 1.5-3 feet away. If you do need to stand closer for some reason, explain what you are doing.
3. **Use calm body language and facial expressions:** Someone may respond and react more to your facial expressions, tone of voice, and the way you're moving your body than anything you may say. Its more about what you do than what you say!
4. **Stay calm:** You can't control what a person does, but what you do and how you respond could either help calm someone down or lead to them becoming more upset. Thinking positive things may help you stay calm!
5. **Focus on how the person feels, rather than the facts:** Rather than discussing facts or trying to be logical, try to say something supportive related to what they may be feeling.
6. **Don't engage with challenging questions:** Don't respond to tough questions that start a power struggle. Instead, steer the conversation back to the main issue and how you can work together to solve it, without ignoring the person.
7. **Set specific and simple boundaries:** Give them easy choices and explain what will happen if they don't follow the rules. Keep it short, respectful, and focus on the positive choice first.
8. **Pick your battles:** When possible, options and flexibility help avoid arguments or challenges. Avoid getting into a power struggle!
9. **Silence is not a bad thing:** Don't always try to fill any silence by talking. It's ok to sit in awkward silence to give the person a chance to breathe, reflect, make decisions, or calm down.

10. **Don’t rush the person:** When someone is elevated and struggling, it may take extra time to think through and respond to things you say. Give them plenty of time to make a decision.

Things to Avoid

When offering support, it’s important to be mindful of our responses to ensure we are helpful rather than unintentionally escalating the situation. Avoiding the following behaviors can help create a more respectful, supportive, and calming environment:

- **Raising Your Voice:** Speaking too loudly or yelling can increase stress and make it harder for the person to regulate. Instead, use a calm, steady tone to help de-escalate the situation.
- **Labeling the Person’s Response as a Problem:** Avoid framing their reaction as “wrong” or “inappropriate.” Instead, focus on supporting them through their experience rather than judging it.
- **Telling the Person How to Feel or React:** Everyone processes stress differently. Avoid statements like "You shouldn’t feel this way" or "You need to respond differently." Instead, validate their experience and offer support if welcomed.
- **Invalidating Their Experience:** Dismissing someone’s feelings by saying “It’s not a big deal” or “You’re overreacting” can make them feel unheard and increase distress. Instead, acknowledge their emotions and let them express their needs.
- **Telling Someone to “Calm Down” or “Relax”:** Phrases like “Just calm down” can feel dismissive and may escalate frustration. Instead, focus on creating a supportive environment that allows the person to self-regulate.
- **Providing Unwanted Support:** Only offer help if the person indicates they want or need it. If they decline assistance, respect their decision and give them space to regulate in their own way.

Additional Resources

If someone is experiencing a mental health crisis or emotional distress in the garden space, the most important thing you can do is stay calm and offer support without pressure. If they are open to it, you can help them connect with appropriate resources for further assistance.

- **Personal Support Network:** Offer to help them reach out to a trusted friend, family member, or support person (such as a peer specialist, therapist, or case manager) who is part of their existing support system.
- **Local Warmlines:** Warmlines are confidential, peer-support phone services for people who need someone to talk to but are not in immediate crisis. Availability varies by location, and some services may only be open at specific times.

- Search for PA Warmlines: Warmline Directory

- **NAMI (National Alliance on Mental Illness) Helpline:** Provides mental health resources and information but is not a crisis service.
  - Call: 800-950-NAMI (6264)
  - Text: 62640
- **988 Suicide & Crisis Lifeline:** A 24/7 crisis resource for urgent mental health support, suicidal thoughts, or emotional distress.
  - Call or text: 988

Safety Considerations

Section Summary

Creating a safe and accessible garden environment is essential to supporting participation for all gardeners. This section offers guidance on preventing injury, reducing stress, and ensuring comfort through thoughtful design, clear protocols, and inclusive practices.

- **Design for Physical and Cognitive Safety** – Use enclosed boundaries, looped pathways, and clear signage with large print, Braille, and tactile markers. Ensure smooth, obstacle-free paths with non-slip surfaces for safe navigation.
- **Store Tools Safely** – Keep tools, fertilizers, and other materials in labeled, accessible storage areas. Lock up hazardous items and use text, pictograms, and Braille on all labels.
- **Manage Sun and Heat Exposure** – Provide shaded areas, schedule gardening sessions during cooler hours, and encourage protective clothing and sunscreen use. Create cooling stations and hydration areas with accessible water spouts.
- **Encourage Hydration and Rest** – Ensure regular water breaks and provide seating in shaded areas. Remind gardeners to stay hydrated, especially those at risk of heat-related illness or taking medications that affect hydration.
- **Support Ergonomic Gardening** – Offer lightweight, adaptive tools, kneelers, and rolling stools. Promote healthy posture, task rotation, and low-energy alternatives like vertical or seated gardening to prevent fatigue and injury.
- **Prepare for Emergencies** – Include a first aid kit, emergency contact list, and signage explaining where to find help. Provide options like call buttons or mobile phones for gardeners who work alone.
- **Promote Health and Hygiene** – Make gloves, sturdy shoes, and other PPE readily available. Offer handwashing stations or wipes to reduce the risk of infection and foodborne illness.

Introduction

Creating a safe and accessible environment is essential for all gardeners. A well-designed space helps prevent injuries, reduces anxiety, and ensures that individuals of all abilities can participate comfortably. The following considerations address common safety concerns and provide strategies for creating a welcoming and accessible community growing space.

Designing for Safety

A safe and structured garden layout is crucial to preventing accidents and fostering an inclusive space. The design should account for physical safety, mobility access, and wayfinding clarity for all participants, including those with disabilities, older adults, and individuals with sensory or cognitive disabilities.

Creating Secure Boundaries

Enclosed spaces are beneficial for individuals with memory impairments, young children, or those prone to wandering. A well-defined perimeter helps ensure that participants feel safe while maintaining an open and welcoming environment. Secure boundaries can be created using fencing, hedges, or natural barriers that allow for both visibility and enclosure. For individuals with visual impairments or cognitive disabilities, tactile or high-contrast markers should be used along fences or gates to indicate boundaries clearly.

Navigation and Wayfinding

Community gardens should incorporate clear navigation paths that support orientation for individuals with low vision, memory impairments, or mobility disabilities. Circular layouts, where pathways loop back to a central point, can reduce confusion and improve spatial awareness. Signage should include large-print text, Braille, and high-contrast colors. Pathways should also be wide, smooth, and free of obstacles, ensuring accessibility for those using mobility devices. Non-slip pavers, compacted gravel, or rubberized surfaces provide safe and stable ground cover.

Individuals with dementia, autism, or cognitive disabilities may require additional navigation support. To enhance safety, gardens should incorporate fencing, color-coded pathways, and tactile wayfinding markers. Features such as wind chimes, textured surfaces, and guide ropes can help support independent navigation.

Safe Storage of Tools and Materials

Improperly stored tools and materials can present significant tripping and safety hazards. To prevent accidents, all gardening tools, fertilizers, and other supplies should be kept in clearly labeled storage areas with accessible shelving. Lockable storage units should be available for hazardous materials, and all labels should include text, pictograms, and Braille to support diverse access needs.

Managing Sun and Heat Exposure

Prolonged sun exposure can cause dehydration, heat exhaustion, and medication-induced sensitivity. Many individuals, including older adults, people with heart conditions, and individuals on certain medications, may be more vulnerable to heat-related illnesses.

Providing Shade and Timing Gardening Activities

Shade structures are essential for reducing the risks of UV exposure, sunburn, and heat exhaustion. Providing pergolas, umbrellas, or shaded pavilions in key gathering areas ensures that participants can rest comfortably. Gardening sessions should be scheduled before 11 AM or after 4 PM to avoid the hottest part of the day. In addition, solar-powered or motion-activated lighting can support evening gardening sessions, providing relief from daytime heat while ensuring visibility and safety.

Protective Clothing and Sunscreen

For those at risk of photosensitivity or heat stress, wearing protective clothing is essential. Gardeners should be encouraged to wear hats, UV-protective sunglasses, long-sleeved shirts, pants, gloves, and sunscreen. Keeping a designated supply station with extra hats, sunscreen, and cooling cloths ensures that all participants have access to sun protection.

Hydration and Cooling Areas

Hydration is crucial, especially for individuals with diabetes, kidney disease, or cardiovascular conditions. Water intake should be encouraged at least once per hour. To support hydration, drinking stations with accessible spouts should be placed throughout the garden, and electrolyte-rich drinks should be available on especially hot days. Seating areas should include shaded benches and cooling stations where gardeners can take breaks.

Avoiding Dehydration

Dehydration can lead to dizziness, confusion, and serious health complications, particularly for individuals who have low blood pressure, heart conditions, or take medications that affect hydration levels.

Encouraging Hydration and Scheduled Water Breaks

Hydration stations should be available at all times, with multiple access points and spouts at wheelchair-friendly heights. Gardeners should be reminded to drink water regularly, and electrolyte-rich beverages should be offered on high-temperature days. Rest breaks should be scheduled, with gardeners encouraged to replenish fluids before, during, and after gardening activities.

Ergonomics and Managing Energy

Gardening can be physically demanding, requiring tools and techniques that reduce strain and promote long-term sustainability.

Use of Lightweight and Adaptive Tools

For individuals with arthritis, chronic pain, or mobility limitations, traditional gardening tools may be difficult to use. Providing ergonomic tools, long-handled gardening implements, and lightweight materials can significantly reduce joint strain and improve accessibility. Gardeners should have access to adjustable tool grips, kneeling benches, and rolling stools to minimize discomfort.

Proper Body Mechanics and Work Rotation

Proper posture and work pacing are essential to preventing overuse injuries and muscle fatigue. To reduce strain, gardeners should be encouraged to alternate between standing and sitting tasks, take frequent breaks, and use tools with extendable handles to avoid excessive bending or reaching. A rotation schedule for heavy and light tasks can also help prevent fatigue.

Low Energy Gardening Alternatives

For those with chronic fatigue, fibromyalgia, or limited mobility, engaging in traditional gardening tasks may not be feasible. Alternatives such as seated gardening, vertical gardening, or container gardening provide meaningful participation without excessive

exertion. Additionally, activities like horticulture therapy, seed sorting, or plant arrangement allow individuals to engage in gardening with minimal physical strain.

General Safety Guidelines

In addition to environmental safety, gardening communities must implement measures that address health, emergency preparedness, and inclusivity.

Recognizing Health Concerns

Some gardeners may have allergies, respiratory conditions, or medical restrictions that require accommodation. Awareness of medication interactions, fragrance-free environments, and allergen control can help create a safer space. Having emergency plans for allergic reactions or medical events ensures quick response in critical situations.

Emergency Preparedness

Community gardens should have a first aid station, emergency contact list, and cooling stations in case of falls, heat exhaustion, or allergic reactions. Individuals gardening alone should have access to call buttons, emergency whistles, or mobile phones to ensure safety.

Personal Protective Equipment (PPE)

Providing gloves, knee pads, sturdy shoes, and protective eyewear helps reduce the risk of cuts, abrasions, and exposure to harmful substances. These materials should be stored in clearly labeled, accessible areas where all gardeners can easily find and use them.

Hand Hygiene and Food Safety

Maintaining clean hands before and after handling soil, plants, or harvested produce is essential for reducing the spread of bacteria, parasites, and potential foodborne illnesses. Gardens should include handwashing stations or sanitizing wipes near work areas.

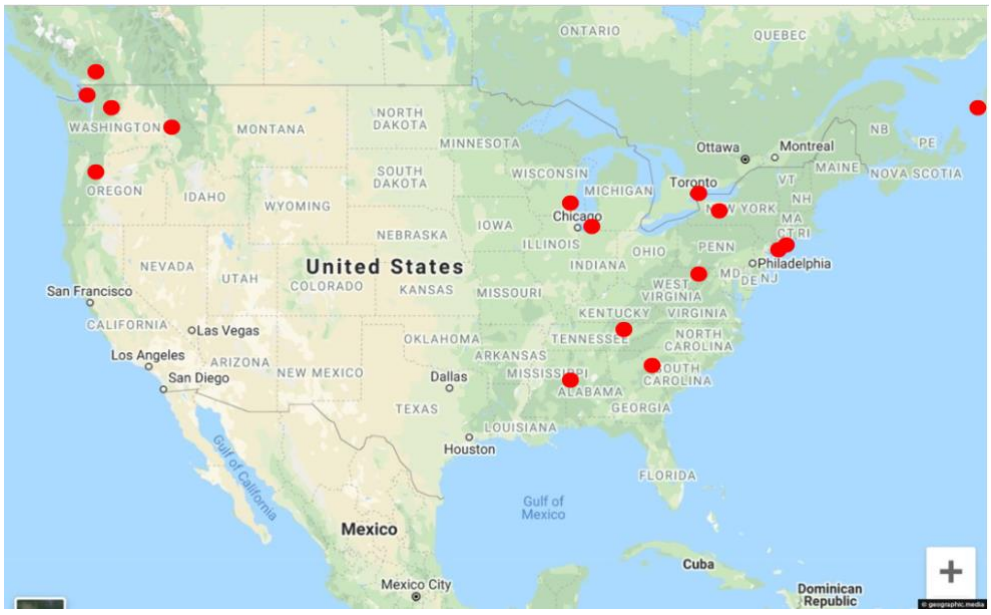
How We Developed This Guide

This accessibility guide was developed through a collaborative effort, combining expertise from our workgroup with an in-depth analysis of existing resources on accessibility in community growing spaces. Our initial draft was reviewed by workgroup members, ensuring that the final resource reflects diverse perspectives, practical strategies, and best practices for creating inclusive gardens.

Analysis of Existing Resources

To build a strong foundation for this guide, we collected and analyzed 19 resources from across the United States and Canada that addressed various aspects of accessibility in community growing spaces. This allowed us to map current practices, amplify innovative approaches, and identify persisting gaps in available resources. We were able to build on this information create the most comprehensive and adaptable framework, ensuring accessibility goes beyond physical modifications and reflects the full spectrum of inclusion in community gardening.

Existing Resources



Source	Location	Organization	Resource Name
1	Nashville, TN	Nashville Public Health Department	Community Garden ADA (Americans with Disabilities Act) Guidelines

2	Waterloo, Ontario (Canada)	Region of Waterloo Public Health Department, community garden council of waterloo region, opportunities waterloo region, the Ontario trillium foundation	Barrier-free community gardens in Waterloo region
3	Seattle, WA	Seattle Department of Neighborhoods (P patch program)	Making Gardens Accessible for All
4	Victoria, British Columbia (Canada)	Horticultural Therapy Association of Victoria Inc., Victoria Public health Department	Gardening - people with disabilities
5	Chicago, IL	Chicago Botanic Garden	Gardening as a Social Enterprise: Including People with Disabilities
6	St Johns, Newfoundl and and Labrador (Canada)	Memorial University	Gardening Made Easier: Taking steps towards a universal design
7	Buffalo, NY	Grassroots gardens of western NY	A guide for Making Community Gardens Accessible for all members (2015 version)
8	Madison, WI	The Gardens Network (partnership between Rooted [formed from center for resilient cities and community groundworks), UW-Madison Extension Dane County, and the City of Madison)	Madison's inclusive Community Gardens
9	Starkville, MS	Mississippi State University Extension	Tips for Gardening with Special Needs Groups
10	National (US)	National Center on Health, Physical Activity and Disability	Accessible Gardening
11	New York, NY	NYC Parks GreenThumb	NYC Parks GreenThumb Community Garden Accessibility Guide
12	New Brunswick, NJ	New Jersey Agricultural Experiment Station at Rutgers University	Enabling Gardens: The Practical Side of Horticultural Therapy
13	Victoria, British	City of Victoria, Public Health Association of BC, Can You Dig It!	Community Garden Accessibility Toolkit

	Columbia (Canada)		
14	Pullman, WA	Washington State University Master Gardeners	Gardening for Life: A guide to garden adaptation for gardeners
15	Morgantown, WV	West Virginia AgrAbility	Accessible Gardening: Tools and Resources for Green Thumbs
16	Vancouver, British Columbia (Canada)	City of Vancouver Persons with Disabilities Advisory Committee and Seniors Advisory Committee	Background and details: Accessible Community Garden Guidelines 2011
17	Athens, GA	University of Georgia Horticulturists	Raised Garden bed Dimensions: Community and school gardens
18	Corvallis, OR	Oregon State University Extension Service	Gardens for Everyone: Ideas for Accessible Gardening
19	Buffalo, NY	Grassroots gardens of western NY	Community Garden Accessibility Guide (2020 version)

We downloaded and examined each existing resources to determine:

- The type of access need addressed (e.g., mobility, sensory, cognitive, financial, social inclusion).
- The strategies used to remove barriers and increase participation.

We used the following definitions to identify and categorize access needs and strategies:

Access Needs

Access Need	Examples
Communication	• Some people communicating using a device • Some people use a language other than English. (Example ASL, Spanish, Vietnamese)
Information Processing	• Needing additional time to understand complex information. • Benefiting from different learning tools beyond traditional classroom methods.

	• Needing clear language and pictures help understand words better • Accessible formatting like larger text, specific fonts, and screen readers. • Needing additional supports to remember things like where you are, what you planted, and how to complete certain tasks
Physical Wellbeing	• Some people's energy levels fluctuate, impacting their participation in activities. • Some people experience chronic pain or other physical limitations that require consideration. • All people benefit from general wellness recommendations related to hydration, sun exposure, body mechanics, and other general wellness while gardening recommendations • General safety guidelines
Mobility	• Some people use a mobility device (example: cane, walker, crutches, wheelchair) Accessible features like ramps, elevators, and wider doorways are essential for movement.
Sensory Environment	• Excessive noise or bright lights can be overwhelming for some. Access to designated quiet spaces or sensory break areas are helpful.
Social Interaction	• Some may experience social anxiety or challenges interacting with new people. • Managing emotions in social situations can be difficult for some.
Medical Needs	• Uninterrupted access to necessary medications or medical equipment is vital for participation. • Management of internal factors like blood sugar levels is crucial for well-being. • A fragrance-free or allergen-free environment is essential for some.

Transportation	• Limited access to public transportation or reliance on others for transportation may affects some people's ability to participate.
Financial Considerations	• The cost of activities or equipment can be a barrier for some. • Childcare is essential for some to participate
Social Inclusion	• Some people feel most comfortable and engaged in spaces that respect their diverse beliefs and identity. (Ex. respecting religious and cultural beliefs) • Access to gender-neutral restrooms and the use of correct pronouns are important. • Some people need a support person to accompany them so they can participate safely and effectively • Might need extra support or buddy system (someone doesn't come with aides but needs them)
Orientation/Vision-Specific Accommodations	• Some people need high contrast colors on signs • Some people need tactile markers or cues • Some people may need gardening strategies that mainly use tactile feedback
General access needs	• Accommodations or recommendation that are generally applicable to the disability community
Other	
Age inclusion	• Accommodations/recommendations that increase accessibility for children and/or older adults

Strategies Used

Strategy	Definition
Gardening Technique	Strategies to increase accessibility through the process of gardening. (Ex. Blind/low vision gardeners can use a rope with knots to evenly space seeds)
Built Environment	Recommended changes to the infrastructure of the garden that can address access barriers (ex. Building raised beds)
Tools	Any strategy that recommends includes a tool in the recommendation (ex. Provide tools with long handles for gardeners in a wheelchair)

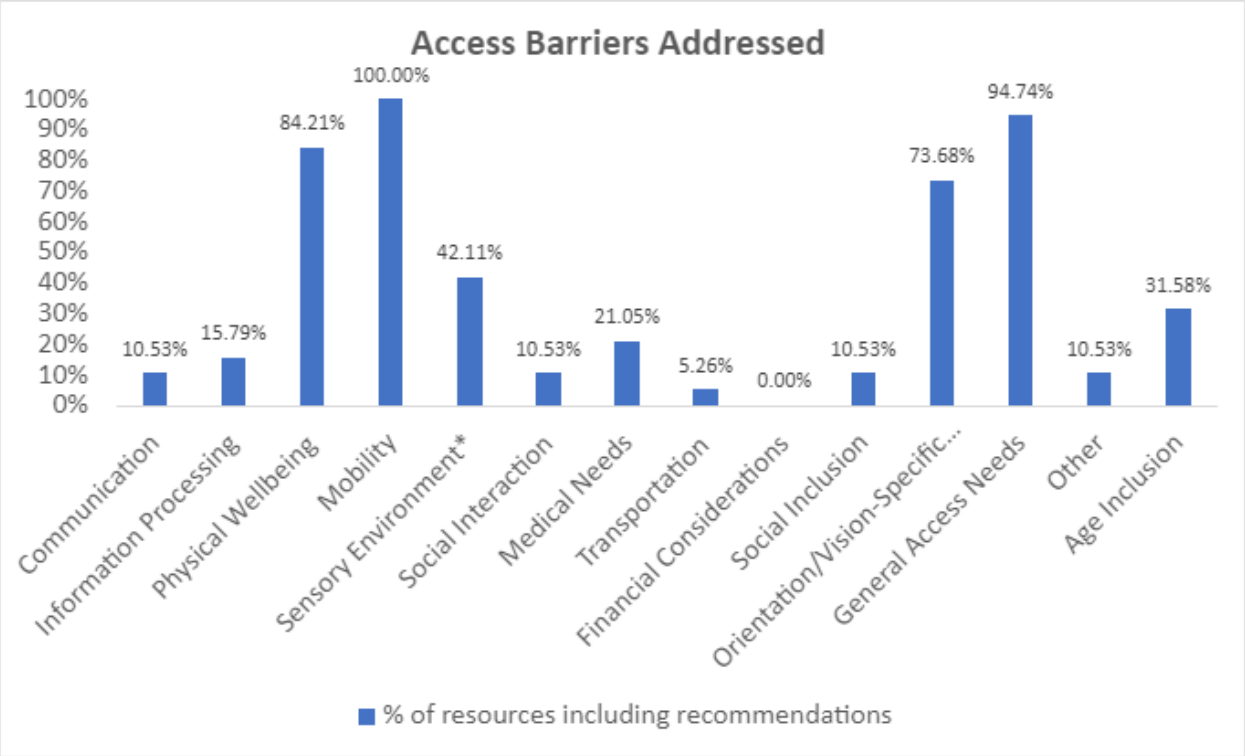
Furniture	Any strategy that includes adding or adapting the furniture around a garden (ex. Increase benches in shaded areas for older gardeners to take breaks)
Process/Policy	Recommended rules, guidelines, and procedures implemented to ensure accessibility and inclusivity in community gardens
Staff/Interpersonal	Recommended social interactions and assistance provided by garden staff or participants to support and include everyone in the community garden
Education/Information	Strategies relating to handouts, ergonomic guidelines, informational posters, and general advice to ensure gardeners' safety and well-being, focusing on safe practices rather than gardening techniques.
Signs	Recommendations that include adding signage or adaptations of existing signs
Garden Design	Recommended changes to the layout and design of the garden outside of the built infrastructure (ex. Locations of potted plants, or where tools should be stored)

Results

Our analysis found that most existing resources included recommendations for mobility (100%), vision (74%), physical well-being (84%), and general accessibility needs (95%). See Table # for the number of resources that mention each type of access need. However, social and structural access needs, such as social interaction and inclusion, transportation (5%), and financial barriers (0%), were rarely addressed. Additionally, communication (10%), sensory environment (42%), and information processing needs (16%) were often overlooked. When sensory access was mentioned, it was primarily focused on planting sensory gardens rather than addressing sensory-friendly navigation, participation, or engagement.

Beyond gaps in the access needs addressed, we also observed that most strategies focused on physical infrastructure—such as raised beds, pathway design, and accessible tools—while fewer resources provided guidance on interpersonal communication, inclusive policies, or educational strategies that support accessibility beyond physical modifications.

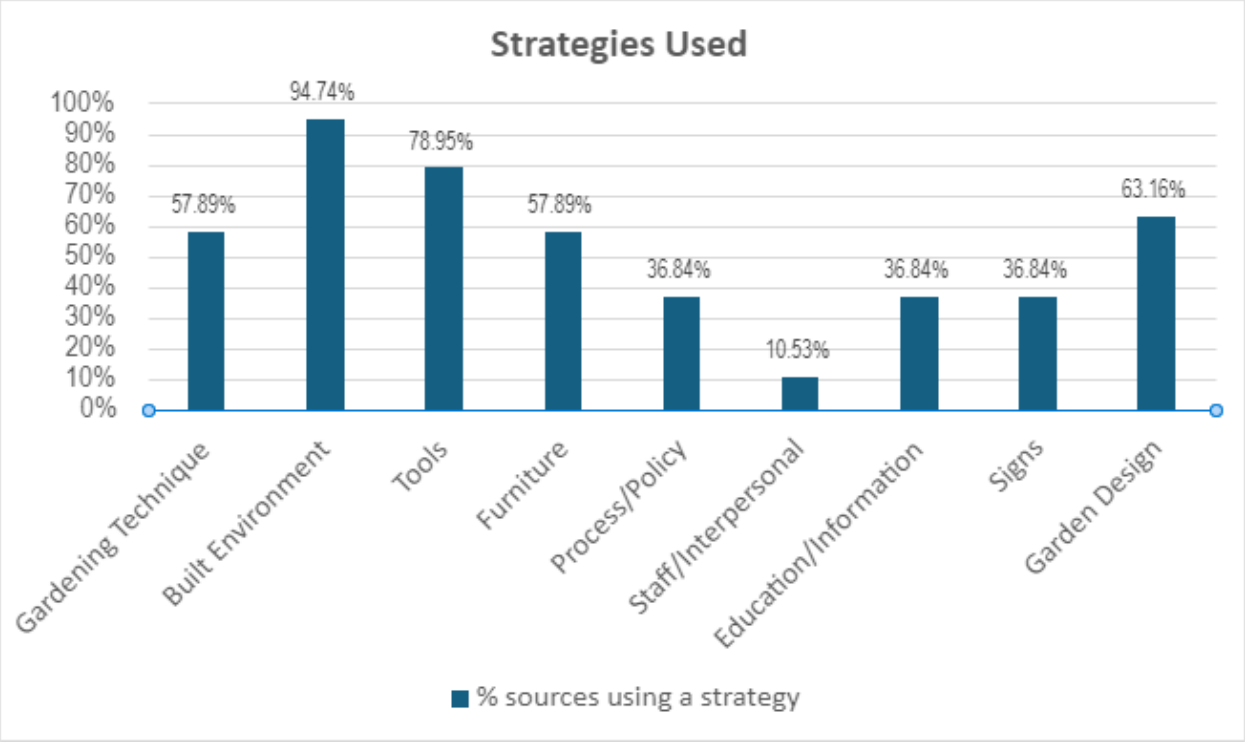
To support the development of more universally designed community growing spaces in Pennsylvania, our team prioritized identifying recommendations that address these gaps. This guide expands accessibility considerations to include social inclusion, communication strategies, process-based solutions, and policy recommendations, ensuring that gardens are welcoming and functional for all.



Access Needs Addressed

Access Need	Number of Resources Addressing Access Need Category	Percent of Resources Including Recommendation
Communication	2	10.53%
Information Processing	3	15.79%
Physical Wellbeing	16	84.21%
Mobility	19	100.00%
Sensory Environment*	8	42.11%
Social Interaction	2	10.53%
Medical Needs	4	21.05%
Transportation	1	5.26%
Financial Considerations	0	0.00%
Social Inclusion	2	10.53%

Orientation/Vision-Specific Accommodations	14	73.68%
General Access Needs	18	94.74%
Other	2	10.53%
Age Inclusion	6	31.58%



Strategies Used

Strategy	Number of Sources Using a Strategy	Percent of Sources Using a Strategy
Gardening Technique	11	57.89%
Built Environment	18	94.74%
Tools	15	78.95%
Furniture	11	57.89%
Process/Policy	7	36.84%
Staff/Interpersonal	2	10.53%
Education/Information	7	36.84%
Signs	7	36.84%
Garden Design	12	63.16%