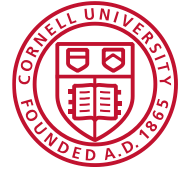


Cornell Cooperative Extension
Cornell Garden-Based Learning



SEEDS OF WONDER

Project S.O.W. (Seeds of Wonder) Food Gardening with Justice in Mind



Learn More: <http://gardening.cals.cornell.edu/>
Published: February 2022

Diversity and inclusion are a part of Cornell University's heritage. We are a recognized employer and educator valuing AA/EEO, Protected Veterans and Individuals with Disabilities.

Thank you for your interest in Project S.O.W. (Seeds of Wonder): Food Gardening with Justice in Mind.

Throughout the curriculum, we include many hyperlinks to resources and videos for learning more. We recommend you refer to the website version of Project S.O.W. on Cornell Garden-Based Learning at <https://gardening.cals.cornell.edu/lessons/curricula/project-s-o-w-seeds-of-wonder-food-gardening-with-justice-in-mind/> to access links and for the most up to date links to use.

Best wishes for joyful exploration!

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Acknowledgements

The creation of *Project S.O.W.* has been a collaborative effort. We are deeply grateful for the support and expertise of many individuals and organizations.

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Rematriation Magazine & Media

Smith – Lever funding support

Parker J. Palmer and the Center for Courage & Renewal for the Mobius Strip video inspiration

Photo Acknowledgements

We share deep gratitude for the photos throughout the curriculum that help bring it to life. Unless otherwise noted, any youth in action photos were taken during our 2021 pilot season. Photos provided by Lori Koenick, Helanna Bratman, Sara Jablonski, Sharon Bachman, Jesse Meeder, Carrie Busekist, Cindy Albro, Jingjing Yin, and Anna Harrod-McGrew.

Other photos have been sourced from the Cornell Photos Image Library, Unsplash, Pixabay, Wikimedia Commons, and Microsoft 365 stock images.

Introduction

Welcome to Project S.O.W. (Seeds of Wonder): Food Gardening with Justice in Mind, a food gardening curriculum for educators who work with young people ages 13-19, centering personal growth, community connection, and equity.

In Project S.O.W., youth work together to investigate how to grow food, explore their relationship with the land and food system, and practice leadership in their communities. Youth discover the power of food gardening to provide their families and communities with fresh and affordable food, and experience firsthand the resilience, confidence, and connection that this time-honored practice brings.



Many people agree that [our current food system is not sustainable](#) with respect to how it currently functions. Research shows that people involved in our food system are struggling and these [struggles are disproportionately felt by people of color](#) and [people with low incomes](#). [Many people are hungry](#), and many are suffering from diet-related illnesses such as type 2 diabetes and heart disease. Food and farm workers are more likely to encounter unsafe working conditions, lack employee benefits such as health insurance, and tend to be underpaid compared to workers in other industries. Grappling with low prices for their crops and competition from large-scale agribusiness corporations, family and small-scale farmers struggle to maintain viable livelihoods. All these challenges are only intensified by our changing climate. These challenges in our society are not unnoticed, youth are becoming increasingly aware of food insecurity, climate change, and racism impacts.

It is common for young people to feel anxious and overwhelmed. During the COVID-19 pandemic, it has been estimated that more than half of our youth experienced these feelings. We do not want to contribute to feelings of anxiety with all that there needs to be done, and there is a lot that needs to be done. Rather, it is our hope and intention that youth come away from Project S.O.W. with the understanding that we do not have to “do it all” to make a difference. When we do engage in activity, it is often so much more enjoyable when it is inspired by our strengths, gifts, and interests – and we’re more likely to follow through with it, too. In Project S.O.W., our aim is to center youth voice, encourage youth belonging, and uplift joy and stories of the good being done in our communities to meet the challenges of our world today. We know that connecting with this meaning and purpose fosters positive youth development.

Project S.O.W. complements and integrates well with Cornell Garden-Based Learning’s [Seed to Supper program](#), a program for adult gardeners. Seed to Supper is an accessible gardening course that gives beginner gardeners the tools they need to connect with

others in community, grow in confidence, and successfully grow a portion of their food on a limited budget. Many educators in New York State requested a similar curriculum for youth, which is how this curriculum came to be.

Curriculum Overview

The curriculum has four units—*Cultivating Community*, *Gardening with Gratitude*, *Sowing Seeds of Curiosity*, and *Rooting Resilience*. Each unit has three types of group activities: *Introductory* (shorter length activities that focus on trust, community building, and seeing what the group already knows on a particular topic), *Digging In* (lengthier activities that explore a topic more deeply and add new information), and *Gardening* (activities that focus on growing food and garden care). In each unit, we connect activities to [New York State Learning Standards](#) and 4-H [Life Skills](#). In addition, each unit highlights *Voices in Food Justice* in which we uplift a voice or group of voices championing food sovereignty in their communities, with a particular emphasis on voices of Indigenous, Black, and other People of Color. Each unit also contains a *Food for Thought* youth guide with activity and reflection prompts for youth to do on their own to revisit ideas discussed in the unit.

<p>Unit 1 Cultivating Community</p> <p>1.1 Group Bingo 1.2 Community Agreements 1.3 The Importance of Land 1.4 Raisin Imagination 1.5 Growing Microgreens 1.6 The World Under Our Feet</p>	<p>Unit 2 Gardening with Gratitude</p> <p>2.1 Gratitude Circle 2.2 Appreciation in the Garden 2.3 Markers of Inspiration 2.4 Connecting with Elders 2.5 Reading a Seed Packet 2.6 Imagine, Plan, Plant</p>
<p>Unit 3 Sowing Seeds of Curiosity</p> <p>3.1 Complexities of Strength 3.2 Where Do You Land? 3.3 Journeying Through Our Food System 3.4 Food System Influences 3.5 What is Justice? 3.6 Let's Talk about Food Justice 3.7 Planting the Garden</p>	<p>Unit 4 Rooting Resilience</p> <p>4.1 Step In 4.2 Voices in Justice 4.3 Reimagine Our Food System 4.4 Rooting Ourselves 4.5 Garden Celebration</p>

Curriculum units with corresponding activities.

This curriculum has been created for groups of 6 to 20 participants, yet is adaptable to smaller and larger groups, and can be used in a wide variety of school, afterschool, and

community settings. All youth engaged in Project S.O.W. are encouraged to have a food gardening experience. The curriculum has been designed with flexibility to support youth having diverse growing experiences- indoors or outdoors; in containers or the ground. We define a garden as any space that you intentionally cultivate plants.

Guidelines for Belonging

It is our hope for facilitators to bring curiosity, empathy, patience, and humility to the program. Recognizing our identities and unique experiences shape how each of us views the world and this view impacts our individual perspective, practicing cultural mindfulness, make caring visible, practice both/and thinking, and acting as a leader and a learner are important strategies for a facilitator connecting with their group. Serving as a vulnerable facilitator willing to “not know” and learn alongside young people is preferable to the need to be an expert on the topic of food justice. It’s a complex subject with many doorways in, and we hope you enjoy the learning as much as the youth.

Acknowledging our History

As Project S.O.W. strives to champion justice, we must acknowledge our history. Cooperative Extension, 4-H, and land-grant universities historically have contributed to systemic barriers making it more difficult for people of color, indigenous people, women, immigrants, and people of low income to access land, to define their own food and agricultural systems, and to access healthy, affordable, and culturally appropriate food.

As a facilitator of this curriculum, we invite you to learn more about these histories and center a culture of belonging. Below are some resources for learning:

- [Belonging Resources](#) Cornell Cooperative Extension Staff Site
- [Black Lives Matter Library Guide](#) Cornell University
- [Commitment to the Deconstruction of Systemic Racism](#) New York State 4-H
- [Diversity, Equity, and Inclusion](#) eXtension Diversity, Equity, and Inclusion
- [Diversity, Equity, and Inclusion](#) New York State 4-H
- [4-H and Black History](#) Cornell Cooperative Extension of Orange County
- [Land-Grant But Unequal](#) Association of Public and Land-Grant Universities
- [The Complicated Growth of 4-H](#) Smithsonian Magazine
- [The Untold Story Behind the Brick and Ivy: Cornell University, the Morrill Land Grant Act, and Native American Tribal Cessions](#)

Food Gardening Resources

The curriculum incorporates activities to explore food gardening basics. To support your gardens and content not directly covered such as pest management and caring for pollinators, the New York State (NYS) Seed to Supper handbook is available for NYS educators to use. Please contact Ashlee Cherry (a.cherry@cornell.edu) if you are interested in receiving a copy of the handbook.

We also encourage contacting your local Cooperative Extension office for garden and plant-related questions: [Cornell Cooperative Extension Offices \(NY State\)](#) and [USDA Land-Grant University Website Directory](#).

In addition to the above, below are excellent gardening resources and curricula:

- [Agricultural Literacy Curriculum Matrix](#) National Agriculture in the Classroom
- [Educator Resources](#) American Horticultural Society
- [Educator Resources](#) KidsGardening
- [Gardening Resources](#) American Horticultural Society
- [Junior Master Gardener](#) Texas A&M AgriLife Extension

Nutrition In The Garden

Project S.O.W. does not directly focus on nutrition in the garden. There are many wonderful opportunities to bring in nutrition and cooking with your harvest into your garden space, we encourage you to collaborate with nutrition educators in your programs. Here are some resources supporting incorporating nutrition into the garden:

- [Gardening and Healthy Nutrition is Interwoven](#) Michigan State University Extension
- [Integrating Gardening, Nutrition, and 4-H Positive Youth Development](#) Washington State University Extension
- [Let it Grow](#) Harvard Graduate School of Education
- [Mi Plato Para Ti](#) Extension Foundation
- [Nutrition to Grow On Curriculum](#) California Department of Education
- [Plant Parts Salad Recipe](#) Food Hero, Oregon State University
- [SNAP-Ed Gardening Resources](#) U.S. Department of Agriculture
- [Teaching Nutrition in the Garden](#) KidsGardening

Book Resources

Curriculum activities contain additional resources for learning. In addition to resources provided, below are a list of books that have provided tremendous inspiration and guidance for the creators of this curriculum.

- [Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants](#) by Robin Wall Kimmerer
- [Farming While Black: Soul Fire Farm's Practical Guide to Liberation on the Land](#) by Leah Penniman
- [Mindful thoughts for Gardeners: Sowing Seeds of Awareness](#) by Clea Danaan
- [My Grandmother's Hands](#) by Resmaa Menakem
- [Seedfolks](#) by Paul Fleischman
- [The Person You Mean to Be: How Good People Fight Bias](#) by Dolly Chugh
- [The Savvy Ally](#) by Jeannie Gainsburg
- [Unlocking the Magic of Facilitation](#) by Sam Killermann and Meg Bolger

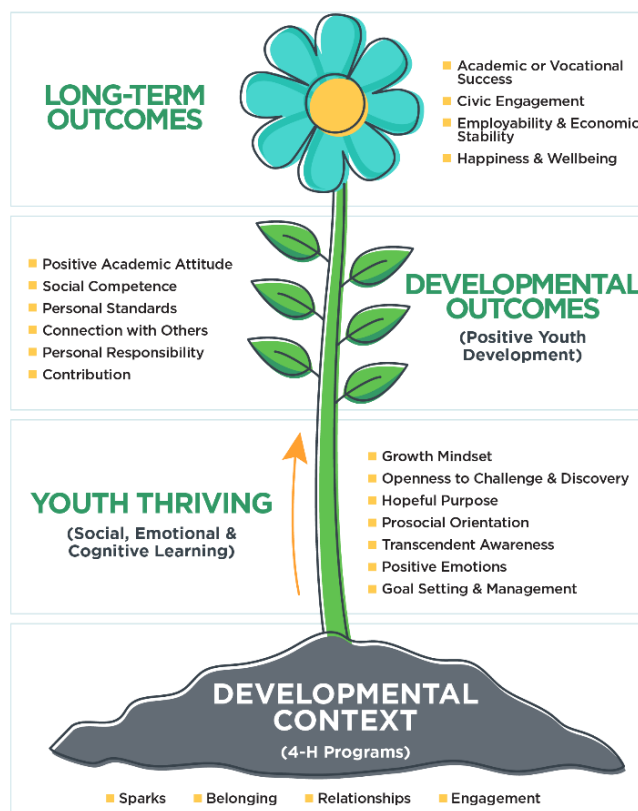
Connections to 4-H Thriving Model

Project S.O.W. is grounded in positive youth development and incorporates processes to nurture positive youth development as outlined in the [4-H Thriving Model](#). Activities are designed to promote youth engagement and are aligned with the seven indicators of thriving. Throughout the curriculum, activities promote the importance of maintaining a growth mindset and an openness to challenge and discovery. Youth are challenged in supportive ways, encouraged to take positive risks, and learn new skills. Uplifting youth voice and interests, centering identity formation, and encouraging goal setting contribute to youth developing a sense of hopeful purpose.

Helping youth develop prosocial orientation and positive emotionality, curriculum activities center collaborative learning in groups, offer expectations for group interactions, promote supporting each other and the local community, and present experiences to practice taking perspective of others. Activities encourage processing experiences with reflection, and support expressing and managing emotions affirming youth they matter and that their feelings are valid. Developing transcendent awareness, activities encourage youth to slow down and offer opportunities to connect with the natural world and practice mindful attention. The group practices learning to see others and the land through a new lens encouraging gratitude and generosity. Promoting goal setting and management, planning and caring for a garden offer youth the opportunity to make choices and act with a goal in mind.

In addition to above, we encourage any group taking part in Project S.O.W. to create and sustain a nurturing developmental context [incorporating youth program quality principles](#), encouraging belonging, and cultivating developmental relationships. Learn more about the Thriving Model:

- [4-H Thriving Model](#) National 4-H
- [Exploring the 4-H Thriving Model: A Commentary Through an Equity Lens](#) by Dr. Nia Imani Fields in *Journal of Youth Development*
- [The 4-H Thriving Model](#) New York State 4-H



4-H Thriving Model

Unit One: Cultivating Community

Introduction

In **Unit One: Cultivating Community**, we hope to establish group familiarity, expectations, and introduce the concept of land. Groups will begin to engage in the growing experience by planting microgreens and start to learn about the place they are gathering in by exploring its soil.

We encourage the facilitator to read over the unit and curriculum in its entirety before use, since many activities are complementary. In this unit, your group will engage in activities to get to know one better and discuss expectations for individual and group behaviors. Whether your group members already know each other or not, this is the first time they will meet for this purpose.

This curriculum may at times lead to uncomfortable conversations. It is important to remember as the facilitator, it is okay if you do not have all of the answers. It is okay to feel uncomfortable. When you start to feel uncomfortable, we invite you to pause, slow down, wonder into the nature of the discomfort, and allow some “room” for it. You may not always need to speak or intervene. In fact, allowing for some space in which to reflect is an important part of engaging with justice.

We introduce the concept of land and its various meanings, since everything starts with the land. We need land for group meeting space and our gardens. By acknowledging the land and its vitality for our existence, we introduce the group to concepts of stewardship and reciprocity. The first step in stewardship is recognition. Continuing with recognition and the centrality of land, the group partakes in a mindful eating exercise. This exercise has youth practice developing an awareness of the present moment and reflecting on our food system.

The unit ends with planting microgreens and investigating soil. Microgreens can a wonderful and reliable first food crop to cultivate as they have relatively quick growing times. Getting to know soil can help us learn the land, piece together some of its the history, and form connection with it. We need our soil to nourish growing fruits and vegetables, sustain our water and vital nutrient cycles, and provide homes for organisms big and small. Youth will explore what soil is and its various properties that support plant growth.

Target Objectives

- **Establish** explicit expectations of individual and group behaviors.
- **Develop** a common understanding of what land is and what it provides for us.
- **Explore** a mindset of paying attention and pausing to allow time for digesting what arises.
- **Recognize** where our food comes from.
- **Practice** sowing seeds and plant care.
- **Investigate** the importance of soil and its various properties.



1.1 Group Bingo

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Learn more about their program peers.
- Explore personal identity.
- Foster a sense of group belonging.

Life Skills

Communication, cooperation, social skills, conflict resolution, accepting differences, character, teamwork, sharing

Time

10 minutes

Materials

- Group Bingo Board handout for each youth
- Pens or pencils
- A hard surface for writing

Space

Open area for walking around

Introduction

It can be difficult to feel comfortable around people we do not know. **This activity gives youth the opportunity to get to know one another and get moving, all in a lively atmosphere.** It also allows youth to practice active listening as they inquire more about their peers' interests. The bingo board should be available as a word document that can be edited, feel free to adapt the bingo board statements to what best fits your group.

Before the Activity

- Print copies of Group Bingo Board
- Decide how you would like to “end” the game. Options could include:
 - Try to get as many spaces filled in a set amount of time.
 - Try to get “Bingo” (filling out four consecutive boxes either horizontally, vertically, or diagonally).
 - If you have a large enough group, it can be ideal to fill the entire board. This provides more opportunity for interaction.

Activity

Opening Questions (choose questions suitable for the group, if appropriate pose the question to set the tone and do not seek an answer)

- Who are your program peers?
- How can we connect with one another?

Experience

1. Give each learner a Group Bingo Board handout.
2. Explain the guidelines:
 - Ask the youth to find people in the group for whom the sheet's statements are true.
 - Share that only one person's name can fill a single box and that someone's name can only appear on a single board once.
 - Give an example: If you write down Summayah's name for "Likes to dance," you cannot write down Imani's name for the same box. You also cannot write down Summayah's name in any other box.
 - Describe how the game will end, options could include: get as many spaces filled in a set amount of time; get "Bingo" (filling out four consecutive boxes either horizontally, vertically, or diagonally); fill the entire board.
3. Play the game, celebrate the "winners" with cheers, high fives, and fist bumps!

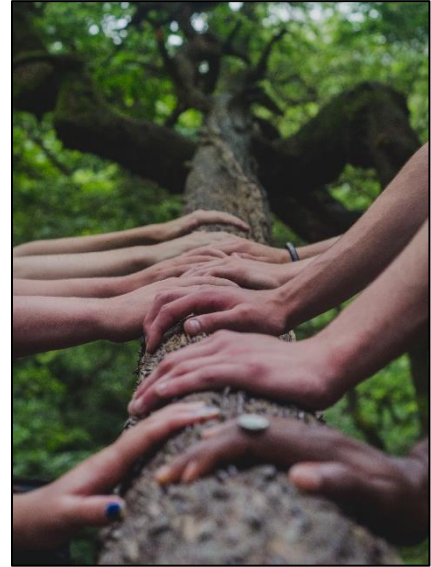


Photo by Shane Rounce on Unsplash

Reflection Questions (choose a few that work best for your group)

- What did it feel like to play group bingo?
- Did you learn something about the group or your peers that surprised you?
- What do you have in common with your fellow group members?
- Where else in your life have you been surprised to learn about someone's interests?
- How do you feel about working with this group?

Variations

- Prizes could be offered as a fun way to encourage participation.

Acknowledgements

Originally written by: Christine Hadel

Group Bingo Board

Directions

- For each statement, find one person in the group for whom it is true and write their name in the box.
- Ask at least one person about their connection to the statement
 - The question must start with “how,” “what,” or “why.”
 - Example: If Imani enjoys drawing, you can ask her why she likes it.

Speaks a language other than English _____	Composts at home _____	Has attended a protest _____	Can identify at least one type of plant _____
Enjoys teaching others _____	Likes to dance _____	Has harvested and eaten fresh raw corn _____	Has hands the same size as you _____
Has given a speech before _____	Is involved in a club _____	Cooks at home _____	Enjoys drawing _____
Has signed a petition _____	Has a garden _____	Enjoys playing sports _____	Plays a musical instrument _____



1.2 Creating Community Agreements

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Explore feelings and values to create space in which group members feel comfortable engaging with each other.
- Communicate an understanding of how to engage with one another.
- Be able to recall agreements during relevant situations.

Life Skills

Communication, cooperation, social skills, conflict resolution, accepting differences, empathy, sharing, teamwork, character, managing feelings

Time

10-15 min

Materials

- Something on which to write and display agreement (Examples: Post-it wall pad paper, poster paper, large piece of wood, cardboard)
- Markers
- Sample Community Agreements handout (optional)

Space

A table or equivalent surface on which to write and a wall or equivalent on which to hang up agreements

Introduction

This activity will help set some expectations for how the group should interact with one another. Throughout this curriculum, youth will engage in many important, and sometimes uncomfortable, conversations. To do so in positive and meaningful ways, the facilitator and group must establish a space grounded in open-mindedness, trustworthiness, compassion, humility, and safety. Having a set of mutually agreed upon community agreements with respect to how to communicate and interact with one another in a trustworthy manner is one way to foster such an environment. Community agreements are ground rules or expectations of how the group wants each other to behave. Having youth contribute to the community agreements creates a space in which youth voice is encouraged.



Example community agreements presented on wood panels.

The agreements included in the Sample Community Agreements handout are based on those that have worked best for the creators of this curriculum. Offer examples to start off the activity and then allow space for youth to come up with their own agreements. When developing agreements, it is important for them to be specific. For example, if a participant says “respect”, ask them to clarify “What does respect look like to you?”

To keep this alive, once completed, community agreements should be recalled and visited often, such as at the beginning of group meetings, and during times in which discomfort arises.

Vocabulary

Agreement: a rule or expectation of behavior for group members

Before the Activity

- Choose which agreements that are important to you as the facilitator and have them ready to go as examples for this activity.

Activity

Opening Questions (Choose questions suitable for the group, if appropriate pose the question to set the tone and do not seek an answer, instead letting participants know that these are the kinds of questions that community agreements seek to address.)

- How do we create a safer space and inclusive environment? We use the term “safer space” instead of “safe space” to acknowledge that only a person can declare a space safe for themselves. In a safer space, we strive to create a space grounded in open-mindedness, trustworthiness, compassion, humility, and physical safety.
- What does inclusive mean to you?
- What should we expect from our interactions with one another?

Experience

1. Name that trustworthy space doesn’t just happen – it is up to each of us to be “trust holders” of spaces that welcome everyone.
2. Introduce the activity to the group. Share that these agreements are meant to guide the group through healthy dialogue and create a safer and brave space of positive learning, a place where everyone feels comfortable to engage in discussion and activity. The agreements should apply for as long as everyone is in this space. These agreements are a working list for the group, and agreements can be added or omitted whenever is needed. On the paper (or whatever surface on which the agreements will be kept), write a few example agreements from the Sample Community Agreements handout.
3. Ask youth to come up with their own agreements. Help them to become more specific: if they say, e.g., “respect” – what does that look like, specifically?
 - To stimulate ideas, ask them to imagine a time in which they worked in a group. What worked well? What did not work well? What do they expect of

each other? What do they expect of the facilitators? What expectations were explicit? What was implied or assumed, if anything?

4. Ask the group if they have any questions about the agreements. Ask the group to add, edit, and/or omit agreements.
5. To accept the list of agreements, ask for a show of approval and commitment by one of the following:
 - Physical action | 1-2-3 clap (clap once, pause, clap twice, pause, and then clap three times, all together).
 - Verbal action | A yes from each member in the group.
 - Signing the agreement.
6. Place the agreements in a place in which everyone can see them at every meeting.
7. Revisit the list at the beginning of group meetings and when needed. Ask participants if they want to add anything or make changes as needed. It can be helpful, even if you don't read through the entirety each time, to lift up one or two each meeting, so they become a part of the landscape of "how we are together."



Participants signing community agreements by placing initials on wood blocks.

Reflection Questions (choose a few that work best for your group)

- What did it feel like for you to come up with community agreements?
- How do we build group and individual accountability?
- In what other situations of your life would community agreements be helpful?
- Think about a time when you have to work in groups or with other people; what is one word you would use to describe the experience? What might group attitudes and behaviors may have made it the experience it was?

Variations

- Print out copies of the Sample Community Agreements handout for each person. Give the youth a moment to read through the agreements or, alternatively, read the rules and their explanations aloud. Ask the group if they have any questions about the agreements. Ask the group to add, edit, and/or omit agreements. To accept the list of agreements, ask for a show of approval and commitment.

Acknowledgements

Originally written by: Christine Hadel

Sample Community Agreements

- **Feel empowered**

Explanation: A significant part of your experience is what you make of it. So, ask questions, make suggestions, speak your mind, and get involved.

- **Practice self-care**

Explanation: Make sure your physical, mental, and emotional needs are being met. If you need to eat something, drink water, go to the bathroom, or get out of the sun, make sure that you do. If you need assistance with something, please ask for it.

- **Practice “both/and” thinking**

Explanation: We often view things with an “either/or” perspective. Try to recognize when multiple things – not just one thing – are true about a subject. We don’t wonder if it’s better to breathe in or out. Practice talking with others in a way that lets you explore many truths. Rather than listening immediately for what’s right or wrong, entertain that the truth may involve both ideas. It can be helpful to practice saying “and” instead of “but” as a way to learn more about this agreement.

- **It’s OK to disagree**

Explanation: It’s ok to disagree with viewpoints and present learning challenges. Practice being uncomfortable for a period of time to see what it might have to teach us. Never blame, shame, or attack someone who disagrees with you.

- **Assume good will**

Explanation: Oftentimes when we hear something that makes us feel challenged or uncomfortable, we are quick to take the defensive. Instead, turn to wonder. Look inward and ask yourself why you feel the way that you do. Then, ask the speaker clarifying questions. You will likely discover that the speaker had no intention to hurt you or others with his/her/their words.

- **Take space/make space**

Explanation: If you find yourself making most of the decisions and speaking the most in conversation, step back to make space for others to speak and participate. If you find yourself staying quiet and taking on little responsibility, step in to make a conscious effort to speak up and participate more.

- **One mic**

Explanation: A way to show respect for fellow group members, have one voice be heard at a time. Practice having a brief pause in between speakers before another speaks.

- **Mindful use of technology**

Explanation: In this space, we ask you to be present with us. As best you can, set aside what happened before this program and what will happen after. Shutting off devices or turning off sound can be a helpful way to stay present.



1.3 The Importance of Land

Skill Level

Intermediate, Advanced

Learner Outcomes

- Explore different definitions of land and various perspectives of what it is to be in relationship with land.
- Understand various perspectives of diverse people.
- Begin to consider how we connect with land.
- Share ideas with others.

Life Skills

Learning to learn, decision making, critical thinking, service learning, communications, social skills, sharing, managing feelings

Time

20 minutes

Materials

- Different color sticky notes or dot stickers
- Reaction color key (see example at end of activity)
- Land definitions and quotes on 8.5 x11 paper handout (optional resource at end of activity) OR writing utensils and large sheets of paper or boards on which to write land definitions and quotes and display around the room



Space

Indoor or outdoor spaces in which definitions can be spread out and displayed

Introduction

The purpose of this activity is to consider the many ways in which we view land, start to think about the implications of these perspectives, and begin to understand how we can build a more reciprocal relationship with the land. We are always on and with land. Whether we realize it or not, we are of land, eat land, make home on land. We cannot shut the door on land when we are inside buildings and homes. Land is always with us under our feet. Without land, there is no food system, there are no gardens, there is no “us.” Although we may see land as “out there,” we are a part of it, it is not separate from us.

Land is important to us for many different reasons. It is a provider of space for all beings, offering the foundation for shelter constructed from its minerals, rocks and plants, and supplying its natural barriers as protection. Land offers a place for

celebrations and meetings, and aesthetically pleasing sites to keep minds at ease. Various human cultures find sites on land of religious importance. Land is an important provider of food. It is constantly cycling nutrients, holding water, soil, and air, and providing stability for organisms to grow.

Every day, people can choose to be stewards of the land and care for it, which begins with recognition. We cannot care about that to which we do not pay attention. Simple practices such as asking permission for use, conserving resources, cleaning up litter, embracing diversity, showing gratitude, and making art in celebration of the land make a difference – and these actions often inspire others, too. As gardeners, we can become stewards through feeding our soil, cover cropping, composting, crop rotation, embracing polyculture, and harvesting sustainably. We can set aside land for resting, such as fallow fields, or for permanent resting, from local land trusts to the rainforests.



This activity uses definitions of land proposed by various people and sources. These definitions and perspectives are not an all-inclusive list. They are intended to generate conversation and encourage the youth to think more expansively about land. Additionally, this activity introduces the group to the concepts of stewardship and reciprocity. These are themes we hope to continue throughout this curriculum.

Vocabulary

Stewardship: caring for something and being responsible for its well-being

Reciprocal: being in a shared “give and take” relationship with someone or something

Before the Activity

- Print out land definitions and quotes (see land definitions and quotes on 8.5 x11 paper handout optional resource) or write each definition on a separate poster board around your meeting space.
- Make four different colored sticky notes or dot stickers available to each youth.

Land Definitions and Quotes	Source
“Land is the surface of the earth and all its natural resources.”	Dictionary - Merriam-Webster
“Land is a rural area characterized by farming or ranching.”	Dictionary - Merriam-Webster
“Land is the basis of all independence. Land is the basis of freedom, justice, and equality.”	Malcolm X : African American leader in the civil rights movement and Black Power movement.
“Land is the residence of our more-than-human relatives, the dust of our ancestors, the holder of seeds, the makers of rain; our teacher.”	Robin Wall Kimmerer : “Mother, scientist, decorated professor, and enrolled member of the Citizen Potawatomi Nation.”

Activity

Opening Questions

- What is land?
- In what ways is land important?
- Share a word to describe land.

Experience

1. Share with the group that today we will think about the concept of land and our connection to it. Pass out colored sticky notes or dot stickers. Explain that each color stands for a different reaction and their task is to mark each land definition with the color that corresponds to the reaction they had to each definition. It can be helpful to make a color key for youth to remember which color goes with which reaction (see example key at end of activity). For example:
 - Purple: This definition caught my attention first.
 - Green: This definition has room to grow.
 - Blue: This definition is missing something.
 - Pink: This definition has given me new perspective.
2. Share with them the provided definitions and their respective sources through a gallery walk — have youth move around the room and read each definition. After reading the definitions, youth place the color sticky note that corresponds to their reaction.
3. Once sticky notes or dots have been placed, have youth view the annotated definitions and gather back together.

Reflection Questions (choose a few that work best for your group)

- How did it feel to do that activity? Do you have any thoughts or feelings you did not expect?
- What is your relationship to land? How do you feel when you are on land? When you are outside?
- What do you think each person was thinking about when they created these definitions? For example, some definitions define land by its features and relative place. Other definitions define land by its function, primarily as it relates to people and ownership. Still others define land by its origins and various relationships to the living and nonliving.
- What definitions would you change? How would you change them?
- Does knowing the source of the definition change on how you relate to it?



Land definitions and quotes written on portable chalkboards.

Variations

- First show youth the definitions without their sources. You can have the youth try and guess the source or each quote, or show them the sources and see if they can match each source to its proper quote.
- In a virtual setting, [Padlet](#) and [Google Jamboard](#) have been used successfully by creators of this curriculum as a platform to share and react to land definitions and quotes.

Learn More

- [A Gardener's Gratitude List](#) (2019) Penn State Extension
- [Greed Does Not Have to Define Our Relationship to Land: On Choosing to Belong to a Place](#) (2020) by Robin Wall Kimmerer, Trinity University Press
- [Health and well-being benefits of plants](#) Texas A&M AgriLife Extension
- [Mindful thoughts for Gardeners: Sowing Seeds of Awareness](#) (2018) by Clea Danaan, Leaping Hare Press
- [Pat McCabe is a Voice for Peace and Discusses Being of Place](#) (2021) Daily Good
- [The Serviceberry: An Economy of Abundance](#) (2020) by Robin Wall Kimmerer, Emergence Magazine
- [You Belong to the Land: A Conversation with Karen Washington and Leah Penniman](#) (2019) by Katherine Kassouf Cummings, Minding Nature Journal

Videos

- [How we can eat our landscapes Pam Warhurst TEDSalon](#) (2012)
- [TEDxMaui - Edwin 'Ekolu' Lindsey - Cultivating Cultural Seeds](#) (2012)
- [The Honorable Harvest - Robin Kimmerer](#) (2019) Bioneers
- [Why lakes and rivers should have the same rights as humans- Kelsey Leonard TEDWomen](#) (2019)

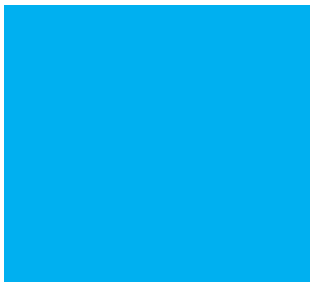
Example Land Quotes and Definitions Reactions Color Key- change color to what matches the colors that you have



Purple: This definition caught my attention first.



Green: This definition has room to grow.



Blue: This definition is missing something.



Pink: This definition has given me new perspective.

“Land is the surface
of the earth and all
its natural
resources.”

Merriam-Webster Dictionary

“Land is a rural area characterized by farming or ranching.”

Merriam-Webster Dictionary

“Land is the basis of all independence. Land is the basis of freedom, justice, and equality.”

Malcolm X: African American leader in the civil rights movement and Black Power movement

“Land is the residence of our more-than-human relatives, the dust of our ancestors, the holder of seeds, the maker of rain; our teacher.”

Robin Wall Kimmerer: Mother, scientist, decorated professor, and enrolled member of the Citizen Potawatomi Nation



1.4 Raisin Imagination

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Develop awareness of the food system and reflect upon personal responsibility.
- Develop awareness of body sensation and how it is heightened by focusing mindful attention.
- Experience a felt sense of interconnection, or what is sometimes called ‘inter-being.’
- Learn to see others and the land through a new lens.

Life Skills

Healthy life-style choices, self-responsibility, critical thinking, managing feelings, sharing

Time

10 minutes

Materials

- A handful of raisins for each participant. See variations on how to modify this activity with another type of dried fruit.

Space

Space for the group to sit comfortably

Introduction

In this activity, we explore a new mindset with regard to how the simple act of honing our attention can make a difference in perception. The group practices learning to see others and the land through a new lens.

Vocabulary

Mindfulness: a mental and physical state of awareness and acceptance of the present moment

Garden: any space you intentionally cultivate plants. This can be in containers, a raised bed, in the ground, etc.

Activity

Opening Questions

- Mindfulness, or mindful attention, is becoming more commonplace in our language. What does it mean?
- Has anyone practiced mindful eating before? Please tell us about it.

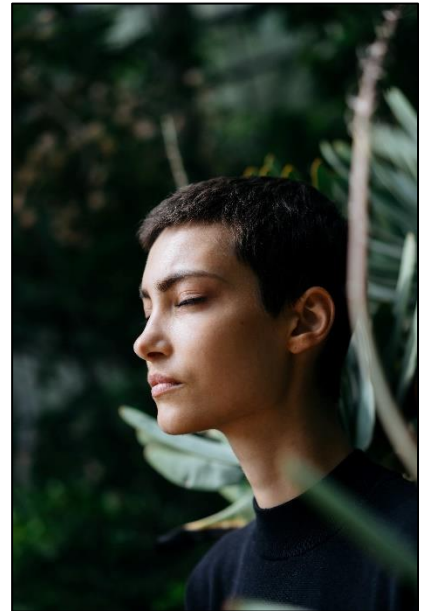


Photo by Motoki Tonn on Unsplash

Experience

1. Invite youth to begin by washing their hands.
 - If youth may not be familiar with vineyards, it may be helpful to show the images provided in this activity as it will help them visualize the journey of their raisin.
2. Hand out a raisin to each person and instruct them not to eat it.
3. Below is a script for facilitators to use, we encourage the facilitator not to rush, and read slowly with intention. In our often 'too busy' culture, this can feel uncomfortable to some; you may even want to practice prior to the session. Taking a breath in between sentences can help with pacing. Please modify the script as needed to fit the snack and the group.



Raisin Imagination Script

- ❖ Let's take a few moments to see this raisin and remember the journey it took to get here. I invite you to close your eyes if you feel comfortable or rest your gaze on the raisin.
 - ❖ This raisin came from a grape, which was born on vineyard. Imagine a grapevine in a vineyard, plump with grapes. The sun is shining, there is a gentle breeze, and nurturing soil providing foundation for us all.
 - ❖ Picture the hands that grew this grape, do they look like yours?
 - ❖ Farm workers tend to the grapes as they grow, providing water and nutrients as needed. When grapes are ripe, farm workers harvest the grapes and prepare them for transportation. Grapes are loaded onto tractors and transported to the next steps on their journey. Processed by people into packaging, juices, jams, raisins and more, so they ultimately arrive to you.
 - ❖ Take a look at this raisin in your hand. Try to look at this raisin as if you have never seen a raisin before. Notice its textures, color, how the light and shadow reflect upon it. If you are thinking to yourself, "why am I thinking so much about this raisin?" Or "this is a silly exercise." Please note these thoughts and bring your attention back to this moment.
 - ❖ Rotate the raisin in your hand or between your fingers. Feel free to close or rest your eyes. Feel the different textures, and notice if they are soft, rough, bumpy, sticky, or smooth.
 - ❖ Gently, bring the raisin towards your ear. Squish it, roll it around in your fingers. Notice any sounds that you hear.
 - ❖ Slowly, bring the raisin under your nose. Inhale softly. What do you smell? Is this what you expected to smell? Notice your body's response. Is your mouth watering?
 - ❖ At last, gently place the raisin on your tongue. Do not bite yet, notice the sensation of the raisin on your tongue. Does it feel differently than when it was in your hand? Notice the flavors, notice your body's response, producing saliva or the urge to chew.
 - ❖ Now, begin to chew slowly. How does the texture of the raisin change? How about flavor? Notice the body's response, the need to swallow.
 - ❖ Now allow yourself to swallow, notice how the body knows exactly what it needs to do. Follow the raisin from mouth to throat to belly.
 - ❖ Take a moment to reflect on how this experience was for you.
2. Ask the group to share a word or thought to describe how they felt during the raisin imagination if they feel comfortable.

Reflection Questions (choose a few that work best for your group)

- How did this practice compare to how you typically eat?
- How does this experience relate to exploring definitions of land?
- What does the land give to us? What do we give to the land? How do we care for the land?
- How do you interact with land in your daily life? Where do you feel most connected to land?

- If we were to apply the “slowing down” pace inspired by this activity to our relationship with the land each day, what might that look like?
- How does land connect to the garden? How can we extend the same care to our gardens as we do to the land?

Variations

- For this activity, any type of dried fruit works well. See example blueberry script below.

Raisin Imagination Script - Dried Blueberry

- ❖ Let’s take a few moments to see this blueberry and remember the journey it took to get here. I invite you to close your eyes if you feel comfortable or rest your gaze on the blueberry.
- ❖ This blueberry grew on a bush on a farm. Imagine a blueberry bush on a farm, plump with berries. The sun is shining, there is a gentle breeze, and nurturing soil providing foundation for us all.
- ❖ Picture the hands that grew this blueberry, do they look like yours?
- ❖ Farm workers tend to the berries as they grow, providing water and nutrients as needed. When blueberries are ripe, farm workers harvest the berries and prepare them for transportation. Berries are loaded onto tractors and transported to the next steps on their journey. Processed by people into packaging, juices, jams, yogurt and more, so they ultimately arrive to you.
- ❖ Take a look at this blueberry in your hand. Try to look at this blueberry as if you have never seen a blueberry before. Notice its textures, color, how the light and shadow reflect upon it. If you are thinking to yourself, “why am I thinking so much about this dried blueberry?” Or “this is a silly exercise.” Please note these thoughts and bring your attention back to this moment.
- ❖ Rotate the blueberry in your hand or between your fingers. Feel free to close or rest your eyes. Feel the different textures, and notice if they are soft, rough, bumpy, sticky, or smooth.
- ❖ Gently, bring the blueberry towards your ear. Squish it, roll it around in your fingers. Notice any sounds that you hear.
- ❖ Slowly, bring the berry under your nose. Inhale softly. What do you smell? Is this what you expected to smell? Notice your body’s response. Is your mouth watering?
- ❖ At last, gently place the berry on your tongue. Do not bite yet, notice the sensation of the blueberry on your tongue. Does it feel differently than when it was in your hand? Notice the flavors, notice your body’s response, producing saliva or the urge to chew.
- ❖ Now, begin to chew slowly. How does the texture of the blueberry change? How about flavor? Notice the body’s response, the need to swallow.
- ❖ Now allow yourself to swallow, notice how the body knows exactly what it needs to do. Follow the berry from mouth to throat to belly.
- ❖ Take a moment to reflect on how this experience was for you.

Learn More

- [GEM: Get Experience in Mindfulness](#) University of Delaware
- [Inspire kids to do™ : Kids' guide to mindfulness](#) National 4-H
- [Mindfull or Mindful?](#) Penn State Extension
- [Mindfulness in 4-H: How to integrate mindfulness into your 4-H program](#) University of New Hampshire Extension
- [Social, Emotional and Mindful Learning Curriculum](#) University of New Hampshire Extension
- [What is Mindfulness?](#) Mindful Communications
- [A Wholeness Offering](#) meditation script by Embracing Equity

Acknowledgements

This activity has been adapted from existing raisin meditations, a practice common in some spiritual traditions.



Photo by Jon Moore on Unsplash



1.5 Growing Microgreens

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Gain confidence at sowing seeds, plant care, and harvesting.
- Plant microgreen seeds in containers in groups.

Life Skills

Keeping records, communications, sharing, marketable/useful skills, teamwork, healthy life-style choices, self-responsibility

Time

20-30 minutes



Young people displaying microgreen trays newly planted.

Materials

- Microgreens seeds and seed packets (Plants commonly grown as microgreens include: arugula, broccoli, basil, beets, cilantro, collards, peas, radish, sunflower, and Swiss chard)
- Containers for planting - should be clean, lightweight and have drainage holes (small plastic pots, plastic clamshell, recyclable containers, seeding trays, etc.)
- Potting soil- Do not use garden soil or compost
- Plastic labels or popsicle sticks for labeling
- Pencils or markers for labeling
- Spray bottle
- Plastic tablecloth or tarp to cover table or floor if activity is indoors

Space

An area with space for youth to plant and a table can be useful to lay out materials

Introduction

Growing microgreens is a chance for the group to practice sowing seeds and plant care. Microgreens can be rewarding to grow because of the relatively short time from planting to harvesting. Typically, microgreens can be harvested 7-21 days after planting. Microgreens do great in indoor spaces and do not need special light requirements. When deciding on appropriate containers in which to plant, plastic recyclable “clamshells” – those plastic containers in which produce is often purchased

that close – work very well. Make sure containers have drainage holes. Before planting, make sure to read the seed packet. This can provide valuable information such as how deep to plant the seeds and time to germination. When watering, water gently so the tiny seeds don't get pushed too far down into the soil. Use a spray bottle or water from the bottom. Microgreens can be harvested with scissors when they are several inches tall or have grown their first true leaf. Microgreens are a great addition to sandwiches, salads, soups and more.

Vocabulary

Sow: to plant a seed for growth

Germinate: to sprout or begin to grow

Before the Activity

If you have time, start a tray of seeds a week to 10 days before teaching this activity, then you can show participants what their seedlings will look like when they germinate. Prepare materials needed for planting, make sure the containers you will use have drainage holes. If the container does not have drainage holes, you can use a knife, scissors, or a nail to make a few holes into the plastic.



Radish microgreens in plastic clamshell container.

Activity

Opening Questions

- Ask the group if anyone has started plants from seed before? What were their challenges and/or successes? What do seeds need to grow?

Experience

1. Discuss what seeds need to germinate: warmth, water, and air. It is commonly thought that seeds need light to sprout. Usually, seeds do not need light, but need a specific soil temperature to sprout. After seeds have sprouted, then make sure they are placed in a sunny windowsill and/or under grow lights.
2. Show the materials needed to plant the microgreen seeds and label your container with the plant variety and date.
3. Demonstrate how to fill the containers with soil, smoothing the top surface to allow for even germination. Then, sprinkle seeds on top and cover them lightly with more soil making sure to have good soil to seed contact.
4. Discuss how to water your seeds and microgreens. You want to water the container gently with a spray bottle as to not disturb seed placement. Before

planting, you should pre-moisten the soil. After sprouting, microgreens respond well to “bottom watering” (placing water in tray under the microgreens container). Water only when the soil surface is dry.

5. After demonstrating how to plant, break the group up into groups of 3 or 4 people. Have each group plant a container of microgreens.
6. Place planted containers in appropriate location for germination.

Reflection questions

- How did it feel to plant seeds?
- What do you imagine that they will taste like when we eat them?

Learn More

- Contact your local Cooperative Extension office for garden and plant related questions: [Cornell Cooperative Extension Offices \(NY State\)](#) and [USDA Land-Grant University Website Directory](#)
- [Grow Your Own Microgreens](#) by Cindy Haynes, Horticulture and Home Pest News, Iowa State University Extension and Outreach
- [Growing Microgreens](#) Home and Garden Information Center at Clemson Cooperative Extension
- [Microgreens](#) University of Florida’s Institute of Food and Agricultural Sciences
- [What are Microgreens?](#) North Carolina State University Extension



Microgreens freshly sprouted!

Acknowledgements

This activity was adapted from the *NYS Seed to Supper* curriculum* and Cornell Garden-Based Learning activity “Growing Microgreens.”

References: Chapter 3 - Planting Your Garden

** NYS Seed to Supper curriculum was adapted with permission from Seed to Supper joint program of Oregon Food Bank and Oregon State University Extension Service. Any courses based upon these materials, are to be offered equitably and free of charge.*



1.6 The World Under Our Feet

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Learn about the importance of good soil for growing vegetables.
- Try different hands-on techniques to learn about soil texture and pH.

Life Skills

Learning to learn, decision making, critical thinking, wise use of resources, keeping records, sharing, contribution to group, teamwork

Time

30-45 minutes

Materials

- A few reference soil types with known textures (i.e. loamy, clayey, and sandy)
 - Sandbox sand and clay can be useful reference soil types to have to demonstrate differences in soil properties.
 - You will want to have a few sandwich bags full of each reference type for youth to look at.
- A few soil samples from different locations (i.e. yard, community farm, community park, etc.) that youth can investigate for their various soil properties
 - You will want to have a sandwich bag full of each soil sample for youth to experiment with.
- Soil Texture and pH handouts
- Disposable latex gloves or a place to wash hands after handling soil
- Tarps, newspaper, or other material to cover table if doing activity indoors
- Clear container with lid
- pH test kits (optional)
- A sample of finished compost (optional)
- Sample of potting mix (optional)



Space

Indoor or outdoor setting

Introduction

This activity is to introduce your group to what soil is and why healthy soil is needed to grow fruits and vegetables. Without soil, life on this planet would look very different. Some may say life could not exist without soil. Soil is not dirt! Dirt is what you get underneath your fingernails or track in on muddy shoes. Soil is a complex mixture of minerals, water, air, and organic matter. Organic matter (OM) consists of three main parts simply described as the [living, the dead, and the very dead](#). The “living” OM includes microorganisms, insects, plant roots and small animals. The “dead” and “very dead” OM contains plant, animal, and microorganism residues in various stages of decomposition. Soil provides shelter and nourishment for plants, animals, insects, and many other living organisms.

Compared to many plants we see growing ‘in the wild,’ like grass, trees, and weeds, vegetable plants are more particular about the soil in which they grow. They need a well-drained, rich soil with a neutral pH to produce lots of vegetables. Soils can be improved, and pH can be changed by adding compost and other soil amendments.



During this activity youth will learn what soil is and some ways that we can describe it. As such, please adapt this activity to what will work best for your group and garden circumstances. For example, if the group is growing an indoor garden, spend time talking about differences and similarities in potting mix (also called soilless mixes) and topsoil.

Potting mixes are specifically made to grow plants in containers and typically do not contain soil. Rather, they usually contain mixtures that can include, but are not limited to: peat moss, vermiculite, perlite, bark, coir, sand, and nutrients (e.g. fertilizer or compost). Potting mixes are designed to retain moisture while allowing air flow around the roots and avoiding compaction. They are usually sterilized to remove diseases and pests.

Vocabulary

Soil Texture: the relative amount of sand, silt, and clay particles in a particular soil. Texture affects a soil's ability to retain nutrients and water and helps regulate air and water movement.

Before the Activity

Collect several different soil samples. You can also ask participants to bring a zip lock bag of soil from home.

Activity

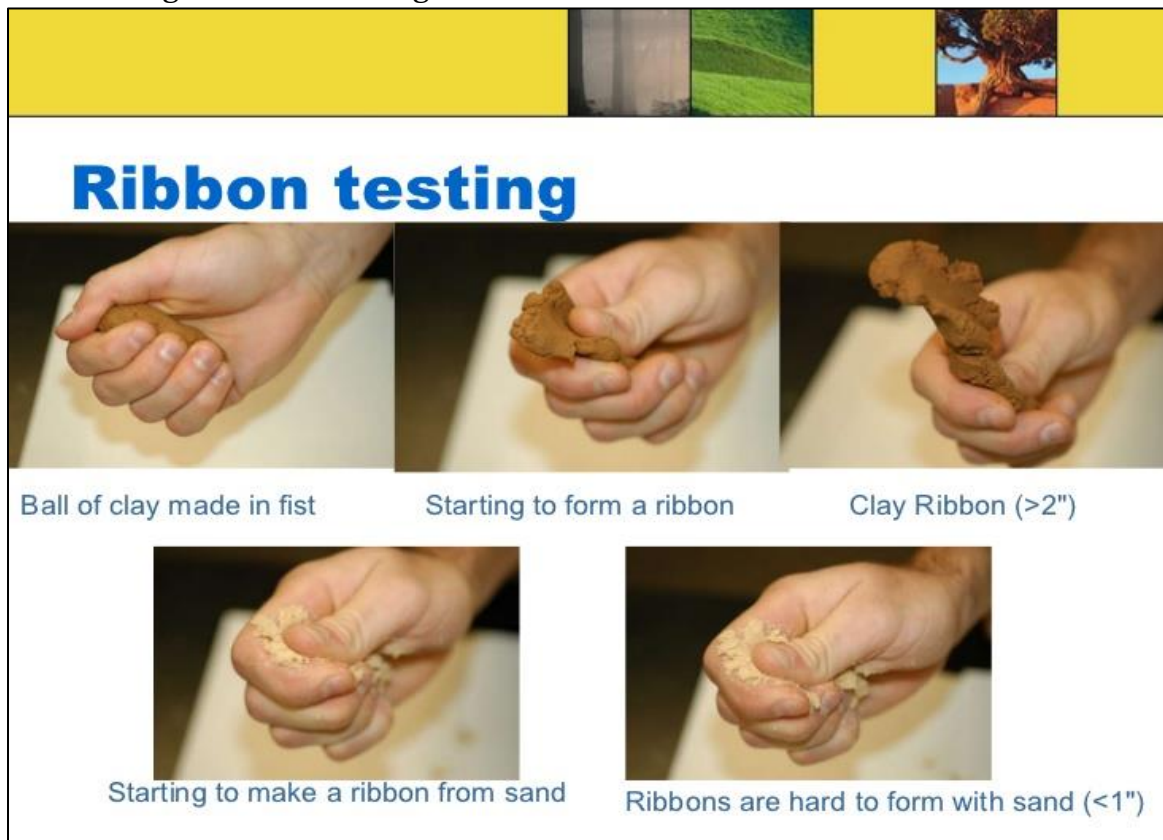
Opening Questions

- For a beginner group new to gardening, choose from the following:
 - What words come to mind when you hear the word soil?
 - Pass around soil samples to the group. Have them describe what they see, feel, hear, and smell.
 - Hold up a bag of potting mix and a bag of topsoil. Pass around samples to the group, let them explore. Ask what similarities and differences they see.
- For an advanced group with growing experience, ask the group if they have ever planted something in a container using potting mix, and if they have ever dug a hole in the ground to plant something. Which one is easier to dig? Which one holds water better? Which do they think is better for long term plant growth?

Experience

1. Set up a soil mudshake with the group. In a clear container with a lid, fill a jar $\frac{1}{2}$ with water and $\frac{1}{2}$ with topsoil, leave a little bit of space for air at the top. Next, shake the jar! It can be fun to pass the jar around the group and let everyone give it a shake. Let the jar rest for 5-10 minutes.
2. Share with the group the importance of healthy, well-drained soil for growing healthy vegetable plants. Soils are complex, living mixtures of minerals, organic matter, water, air, and organisms. They provide homes and nourishment for plants, animals, insects, and much more. The mineral component of soil is made up of sand, silt and clay particles. Good soils usually have a balance of all three. Soil with too much clay or too much sand will need to be amended to make it better for growing vegetables.
3. Carefully, have the group look at the soil mudshake. You should see the soil has settled into different components or layers. Usually, there is mineral matter at the bottom, then water, and floating organic matter at the top. Looking closely at the mineral matter, you may be able to make out different layers. Sand is the heaviest component of soil and will be at the bottom of the jar. Silt will be in the middle of the mineral layer and clay will be at the top of mineral layer.

- Note: You should be able to see layers settle after 5-10 minutes. The longer you wait, the more distinct layers you will see. It can be fun to have the group look at the soil mudshake multiple times (e.g. after 24 hours and after one week) and count how many new layers they see each time.
4. Share that there are many ways to figure out what is in your topsoil. Demonstrate how to do the ribbon test to find out the soil texture type. Here is a [Soil Texture by Feel Demonstration](#) from Cornell School of Integrative Plant Science. See photos on how to do a soil ribbon test below. Walk them through the process of determining soil texture using the soil texture handout.



5. Have them make soil ribbons and determine soil texture in groups. Have them start with the reference soils to get a good feel for the differences between clayey, loamy, and sandy soils. Then have them make soil ribbons and determine the soil texture of the other soil samples.
6. Ask the group if they have learned about pH before, perhaps in school or another setting. Ask the group what they know about pH. Explain that soils have a pH and can be considered neutral, alkaline, or acidic. Talk about how soil pH affects nutrient availability. Show them the chart of nutrient availability as determined by soil pH. See if they can pick out what pH range might be best for growing

vegetables. Most vegetables do best in soil with a pH between 6.0 and 7.0 with the ideal pH being 6.5.

7. (Optional) Demonstrate how to test soil for pH. Here is a [soil pH test demonstration](#) from Cornell School of Integrative Plant Science.
8. If testing for pH, youth can each take a turn using the pH test kit or work in groups. It can be a good idea to start with a sample that you know has a really high or low pH. For example, peat moss is helpful for comparison as it has a low pH.
9. For an advanced group familiar with gardening and soil, describe how to alter the pH of soils; peat moss, aluminum sulfate and sulfur are used make a soil more acidic and lime is used to make a soil more alkaline. Talk about what amendments can be added to improve soils that have too much clay or sand. See resources at the end of this activity for more information on how to change soil pH.
10. Discuss the soil that will be in the group's garden. If the garden is outside and will be planted in topsoil, share with the group if any testing was done on the soil or amendments added. If the garden will be in containers, discuss what potting mix you will use and the components in it.

Reflection Questions (choose a few that work best for your group)

- What did you think about soil before we met today? What have you discovered about soil that is new?
- If you were to name one appreciation for soil, what might it be?
- What are some reasons why we want to take care of our soils?

Extensions

- Soil painting is a fun activity to celebrate the beauty and importance of our soils. Here are a few resources on soil painting from the [Cornell Soil Health Laboratory](#), [Natural Resources Conservation Service](#), and [Soil Science Society of America](#).
- There are many other simple and fun tests your group can do to learn about characteristics of your specific soil. For example, soil pH test with baking soda and vinegar, digging a hole to test for drainage, and soil biology tests. Here is a resource on [DIY Soil Tests from Washington State University Extension](#).

Learn More

- Contact your local Cooperative Extension office for garden and plant related questions: [Cornell Cooperative Extension Offices \(NY State\)](#) and [USDA Land-Grant University Website Directory](#)
- [Bagged Potting Mixes and Garden Soils for Home Gardeners](#) University of Massachusetts Extension
- [Correcting Soil pH](#) Cornell Cooperative Extension of Rockland County
- [Garden Guidance](#) Cornell Garden-Based Learning
- [Get Growing! All about Soil](#) Cornell Cooperative Extension of Orange County
- [Healthy Soil](#) Cornell Garden-Based Learning
- [How to Test your Garden Soil](#) Cornell University Soil Health Lab (video)
- [Organic Matter and Soil Amendments](#) University of Maryland Extension
- [Soil Basics](#) Soil Science Society of America
- [Soil Basics](#) University of Maryland Extension
- [Soil Health](#) National Resources Conservation Service
- [Soil Mudshake Demonstration](#) Cornell Cooperative Extension of Monroe County 4-H (video)
- [Soil Texture by Feel Demonstration](#) Cornell School of Integrative Plant Science (video)
- [Soul Fire Farm Liberation on Land Skill Share](#) video series
- [The Gift of Ecological Humility](#) by Leah Penniman, Yes! Magazine

Acknowledgements

Parts of this activity were adapted from the *NYS Seed to Supper* curriculum* and Cornell Garden-Based Learning activity “Getting to Know Soil.”

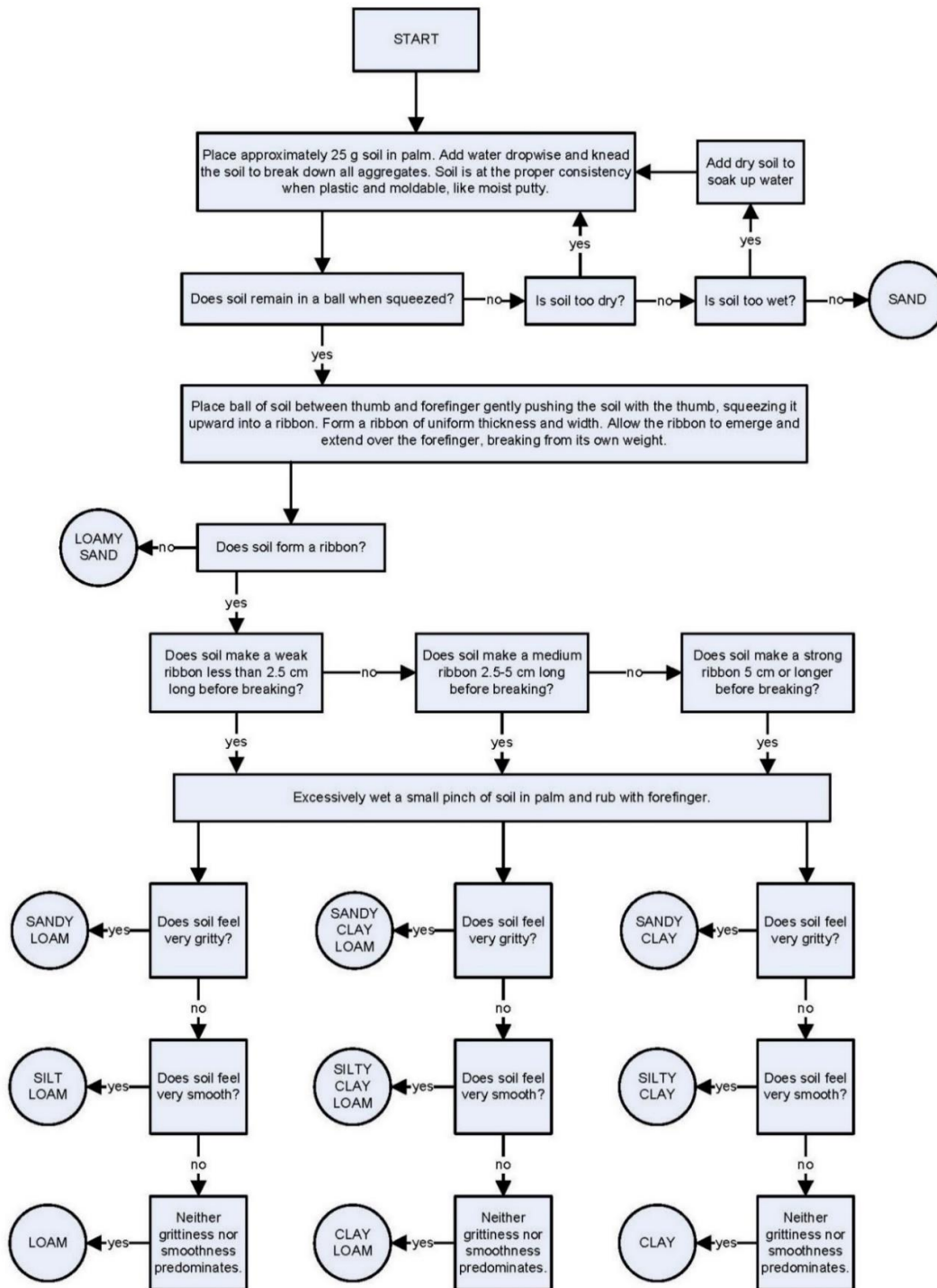
References: Chapter 2 – Getting Started with Healthy Soil

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Soil Texture by Feel - Ribbon Test

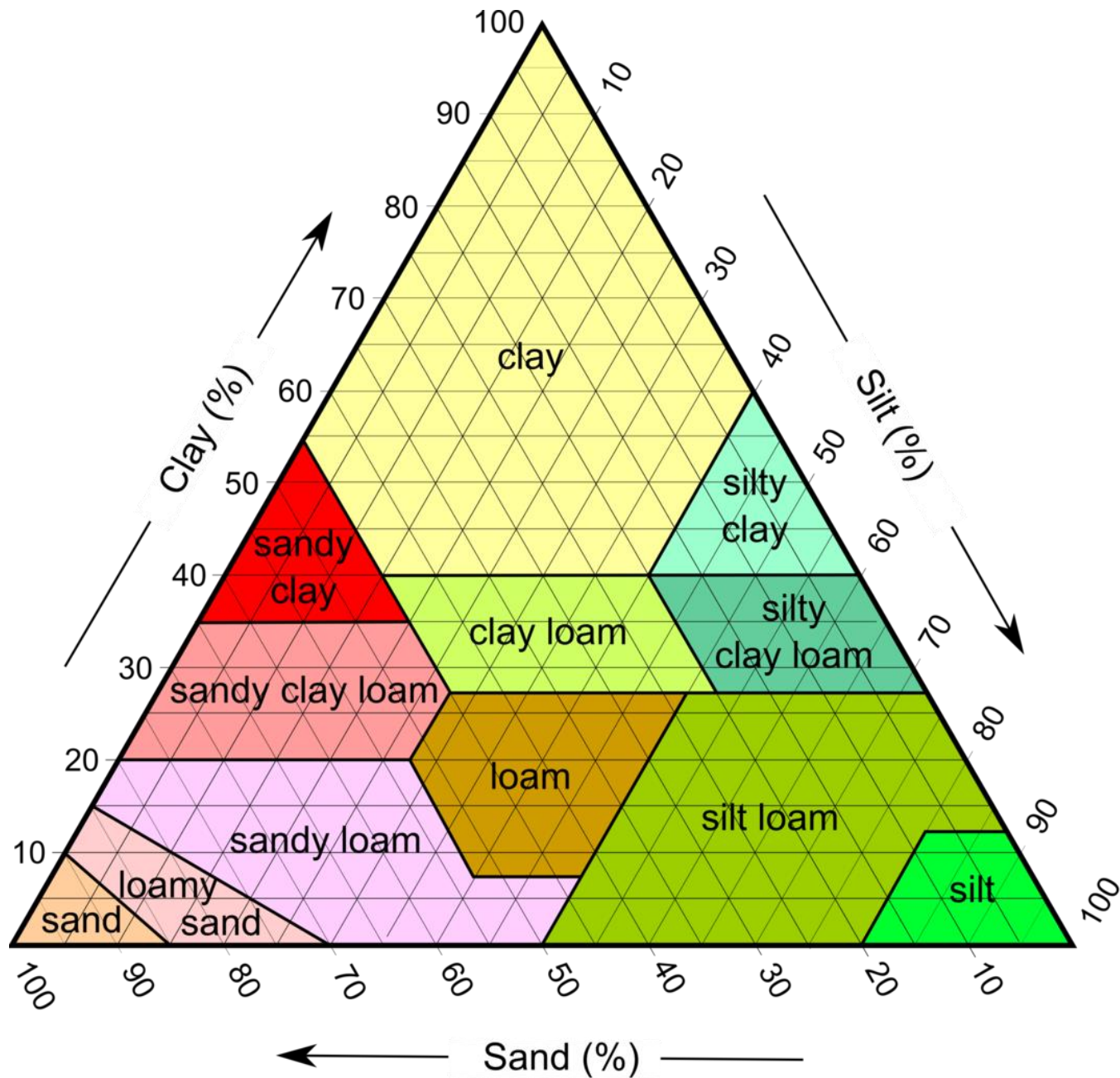
Soil Texture: the relative amount of sand, silt, and clay particles in a particular soil. Texture affects a soil's ability to retain nutrients and water and helps regulate air and water movement.



Flow chart to determine soil texture by feel

Soil Texture Triangle

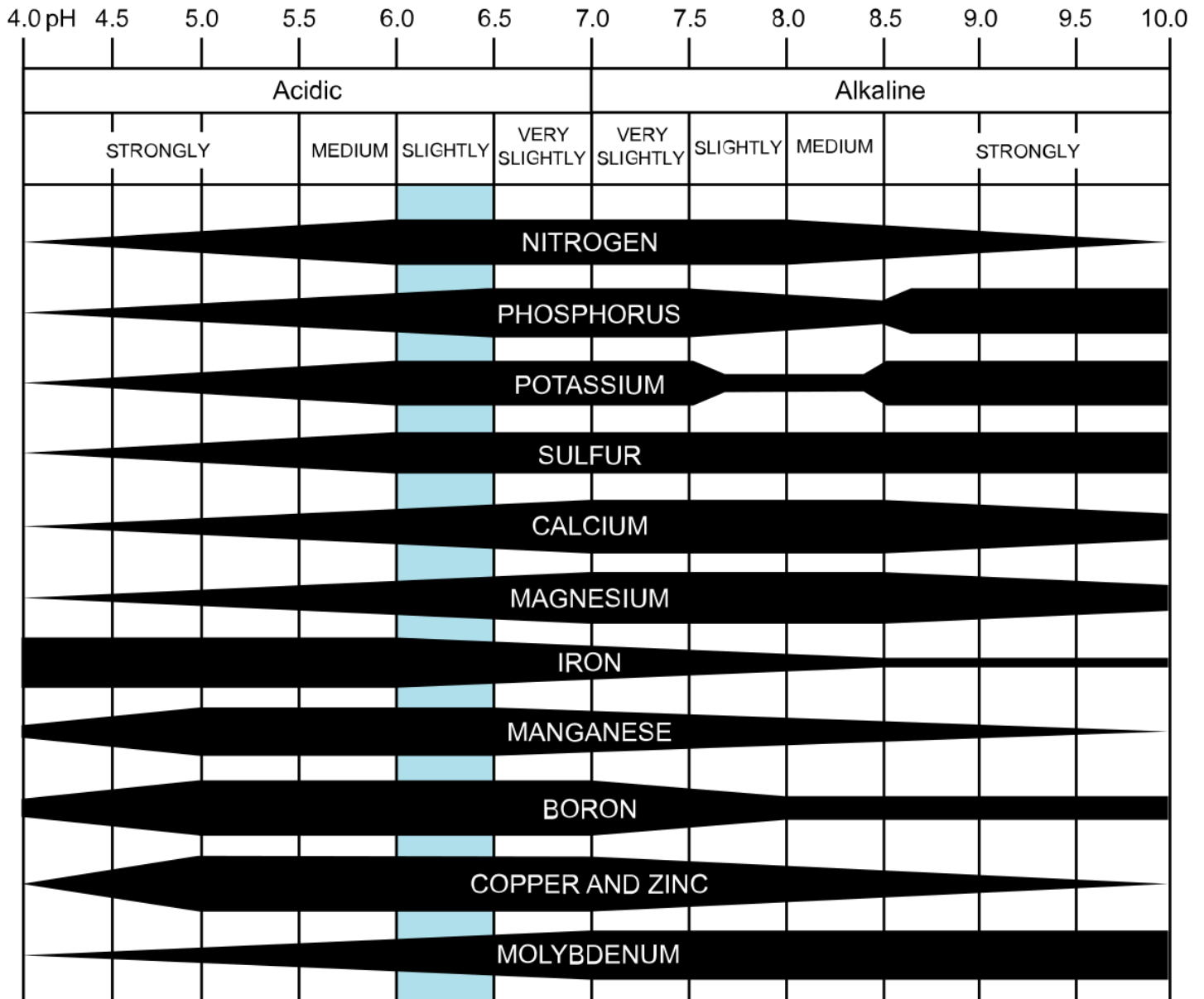
Soil scientists use the soil texture triangle to help determine the texture of a specific soil.



cmglee, Mikenorton, United States Department of Agriculture, CC BY-SA 4.0, via Wikimedia Commons

Soil pH and Nutrient Availability

Soil pH (measure of acidity and alkalinity) affects what nutrients are available for plants to take up and use. The chart below shows how the availability of specific nutrients changes depending on soil pH. The wider the band, the more available the nutrient is to the plant.



CoolKoon, CC BY 4.0, via Wikimedia Commons

Voices in Food Justice:

Ron Finley

Video link: <https://youtu.be/owDCnGmhdAs>

This [video spotlight on Ron Finley](#) (0:15-4:55)* explores a story where one man is changing his community through gardening. [Ron Finley](#) helped change the law in south central Los Angeles to allow folks to plant vegetable gardens in front of their homes. He has started a project with a mission “to grow strong communities that think presently, act intentionally, and lay the groundwork for something beyond what we can see.”

Learn more about Ron’s role in [ending citations for curbside veggies in Los Angeles](#) in this article from TEDBlog.

Below are some possible discussion questions:

- How did you feel watching the video? What parts stood out to you?
- What do you think Ron means when he says “we need to change the design”?
- In what areas of your life would you like to change the design?
- What parts of your community uplifts people?
- How can planting a garden “change the ecosystem”?

*Facilitator Note: At 1:11 in the video, there is an image of a wall writing with some profanity in it.

Unit Two: Gardening with Gratitude

Introduction

In **Unit Two: Gardening with Gratitude**, we continue our discovery of stewardship in the garden and learning about the space we are gathering in. We hold a gratitude circle to create space in which youth can give and receive appreciations, and reflect upon how this feels. We extend this appreciation to our gardens with an activity to develop an acknowledgement for our garden space. Connecting with wisdom in the community, youth begin to prepare for interviewing local food elders. The unit ends with investigating what seeds need to thrive and planning out what the garden will be.

Throughout this unit, youth explore what appreciation is, as well as the connection between gratitude, joy, and stewardship. We introduce perspective as to how we can choose to interact with the land, and encourage participants to reflect on relationships, moving from a more extractive or transactional relationship, to one of mutuality and reciprocity.

We encourage the facilitator to read over the unit and curriculum in its entirety before use, since many activities are complementary. This curriculum may at times lead to uncomfortable conversations. It is important to remember as the facilitator, it is okay to experience discomfort, and it is also okay if you do not have all of the answers; in addition, we may not find the answers. When you start to feel uncomfortable, we invite you to pause, slow down, wonder into the nature of the discomfort, and allow some “room” for it. You may not always need to speak or intervene. In fact, allowing for some space in which to reflect is an important part of engaging with justice.

Target Objectives

- **Explore** the connection between gratitude, joy, and stewardship.
- **Practice** sharing gratitude with others.
- **Reflect** on what is important to us and our relationship with land.
- **Cultivate** intentional awareness through creative expression.
- **Build** communication and research skills while connecting with others in the local community.
- **Investigate** what seeds and plants need to thrive.
- **Collaborate** with group to plan out garden space.



2.1 Gratitude Circle

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Understand and experience the linkage between gratitude and community formation.
- Share feelings of appreciation.
- Experience the sense of belonging generated when gratitude and kindness are centered.

Life Skills

Service learning, communications, cooperation, social skills, conflict resolution, accepting differences, concern for others, empathy, sharing, nurturing relationships, teamwork, character

Time Needed

5-10 minutes

Materials List

None

Space

A space in which group members can see everyone else in the group's faces



Image by congerdesign from Pixabay

Introduction

This activity creates a space for people to develop and embrace gratitude.

Cultivating awareness and gratitude centers us. This activity can uplift the strengths of the group and help to build community. Extending kindness to others helps us remember to be kind to ourselves. Gratitude circles can be done each time the group meets in the beginning, middle, or at the end of the meeting.

Vocabulary

Gratitude: appreciation, the feeling of being thankful

Before the Activity

Gratitude circles create space in which one can share for whom and what they are grateful. This is a space to offer shout-outs to others. Others can be members of the group or expand beyond the group including people, places, and things. Prior to starting a gratitude circle, establish whether gratitude should be focused within the group or expand beyond the group.

Activity

Opening Questions (Choose questions suitable for the group, if appropriate pose the question to set the tone and do not seek an answer)

- What are we thankful for?
- How do we show gratitude?
- What words come to mind when you hear the word community?
- Why might these questions be important for a group such as ours to consider?

Experience

1. Have group members gather in a circle, taking care that everybody can see everyone else.
2. Explain this is a space in which one can share for whom and what they are grateful. This is a space to offer shout-outs to others. Define gratitude as a group. Establish whether gratitude should be focused within the group or expand beyond the group.
3. As you begin the gratitude circle, you might notice that some experience discomfort since this is not always typical of how we engage with others. You can watch body language to determine how this is being received. If young people squirm, glance at one another, giggle, and seem to manifest discomfort in this way, you may want to acknowledge this – “this might feel a little uncomfortable at first. Simply make note of that and please continue.”
4. Keep the gratitude circle going for as long as necessary. Do not pressure group members to share, lean into a few moments of silence as needed.

Reflection Questions (choose one or a few that work best for your group)

- How did it feel to consider what you are grateful for?
- How did it feel to give shout-outs? Receive shout-outs?
- What ways can we incorporate gratitude into our daily lives?

Variations

- Youth can write notes of gratitude on an index card anonymously. The facilitator or group members could read them aloud to the group.



Image by Avi Chomotovski from Pixabay



2.2 Appreciation in the Garden

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Reflect on the importance of showing appreciation.
- Explore what is important to you.
- Explore the connection between gratitude and joy.
- Work together to create an acknowledgement action for the group's garden.



Bringing art into the garden space.

Life Skills

Critical thinking, service learning, communications, cooperation, sharing, contribution to group, teamwork, noticing and managing feelings

Time

20 minutes

Materials

- Gratitude Reflection handout for each youth
- Paper and writing utensils

Space

Comfortable place for youth to reflect and have a whole group discussion

Introduction

Throughout this activity, groups will begin to reflect on how they can garden with gratitude, practice reciprocity with each other and the land, and become a steward of their gardens. Gratitude and joy are connected. We will encourage the group to reflect on their relationship with food, gardens, and the land. In the first part of the activity, youth reflect on what is important to them and how they celebrate what is important to them. In the second part of the activity, we transition to thinking about how we can share appreciations to our garden space.

For most, we have been taught to view the land as what we can get from it, what natural resources it provides. This is one way of thinking. We encourage the group to explore and expand this perspective, moving from usage to relationship. Observation, art, joy, and celebration can be powerful tools in moving from usage to relationship. Written and verbal reflection, creative expression, and group appreciations can also help to make

this shift. This section provides activities for the group that will help them begin stewarding their gardens.

To be stewards of our gardens and the land, we first need to offer recognition and respect. In many cultures, any engagement with the land includes recognition of the land. This recognition can take many forms including acknowledgement of the first land stewards for whom the land is their traditional homeland, as well as songs, chants, offerings, celebration, and ceremony. Paying attention, gardening with joy, feeding the soil with nutrients, sharing your abundance with others, and showing thanks for harvest through acknowledgement are simple ways to show appreciation. Some cultures have ceremonies to celebrate the start and end of the growing season, celebrating though gratitude and festivities. Though there are beautiful examples of honoring and celebration in cultures around the world, we left out specific examples from this activity. We encourage the facilitator to look within for inspiration and to encourage the same among your participants.

How do you show appreciation to that which is important to you?



Share appreciation by gardening with joy.

Important note: There is a difference between cultural appropriation and cultural exchange. If interested in learning more about traditions from specific cultures, we encourage you to research first before reaching out to members of those groups.

Here is a statement from the [Guide to Indigenous Land Acknowledgement](#) by the Native Governance Center:

“Build real, authentic relationships with Indigenous people. In addition to normal employment and family obligations, Indigenous people are working to heal their traumas, learn their languages, and support their nations. If you reach out for help, lead the conversation by asking an Indigenous person what you can do for them. Chances are, they’re likely overworked and could use your help.”

Vocabulary

Honor: to hold in high respect

Gratitude: appreciation, the feeling of being thankful

Reciprocity: being in a shared “give and take” relationship with someone or something

Celebrate: to observe a notable occasion with festivities

Stewardship: caring for something and being responsible for its well-being

Before the Activity

- As the facilitator, take some time to reflect on someone or something that is important to you. Ponder the following questions: Why is that someone or something important to you? What do you appreciate about them? How do you celebrate or show appreciation to what is important to you? How do you learn more about what is important to you? How can we extend gratitude to our gardens?
- In this activity, you will be discussing the history of the land where you are meeting. You might need to do some research beforehand on past stewards (i.e. people, organizations, farms, businesses) of the land.



Activity

Opening Questions (Choose questions suitable for the group, if appropriate pose the question to set the tone and do not seek an answer)

- What is important to you? What are you grateful for? How do you show gratitude?

Experience

Part One:

1. Review community agreements, ask if people want to make changes.
2. Pass out a Gratitude Reflection handout to each youth. Ask youth to think of someone or something that is important to them. This can be done as a reflective drawing or writing exercise if that suits the group. Ask them to ponder:
 - Why is that someone or something important to you? What do you appreciate about them?
 - How do you celebrate or show appreciation to what is important to you?
 - How do you learn more about what is important to you?
3. Ask if anyone would be willing to share what they thought, drew, or wrote. As the youth share with the group, notice trends in their responses. How often is it that people or things are important to them? How do we show appreciation and gratitude for those that are important to us?
4. Ask the group how they feel when they think of someone or something important to them. When are other times they have this feeling?

Part Two:

1. At this point, the group transitions to thinking about their garden space. If your garden space has already been established, have youth share a word on how the garden makes them feel.
 - If your garden space has not been established yet, ask youth, “What is your relationship to land? How do you feel when you are on land?”
2. Ask youth, how can we show thanks to the land? How can we show appreciation to our space?
3. A starting point in showing thanks to the land is learning its history. Briefly discuss the land on which you are meeting and its history. Ask the group, what is the name of the land we are on? Does it have other names? Who stewards this land now?
4. Acknowledge the previous stewards of the space you are meeting in, including any past people, organizations, farms, or businesses. Take a moment to acknowledge those who stewarded the land before white settlers arrived. A great resource for discovering previous indigenous peoples that have resided on the land and where those people are today is [Native Land](#).
 - Here is a [Guide to Indigenous land acknowledgement](#) from the Native Governance Center.
 - Here is an example of a land acknowledgement statement: [Cornell University Land Acknowledgement Statement](#).

5. Pause after acknowledging previous stewards of the land. Invite curiosity to any tension, and then share that history is important. Some parts of our history are taught in school, other parts are not. It is our responsibility as those who work with the land to try to understand the land, and that includes its history.
 - When acknowledging the genocide and forced removal of indigenous peoples, make sure to also highlight where those communities are today and their continued resilience.
6. Share with the group that through your time together, you hope to better understand the space and land you are meeting on and form relationship with it. Share your thanks for the group and garden space and opportunity to work together.
7. Come up with a gesture, acknowledgement, or ritual to start and end your meetings. Explain gratitude may feel uncomfortable at first, and the more you practice it, the more comfortable it becomes. Example gesture or acknowledgement could look like:
 - Sitting in silence for one minute focusing on what you are grateful for.
 - Taking a deep breath, raising your arms on the inhale and lowering them on the exhale.
 - Giving thanks before and after entering your garden space.
8. Once you come up with your gesture or acknowledgement as a group, practice it.

Reflection Questions (choose a few that work best for your group)

- What did it feel like to reflect upon someone or something important to you? How did it feel to hear others in the group respond? How did it feel to share with the group?
- How does it feel to reflect upon the full history of this land – the good and the bad?
- Did anything you heard or felt surprise you? How do gratitude and reciprocity affect relationship?
- How can we build and maintain a balanced, reciprocal relationship with the land?



Extensions

- **Cornell Garden-Based Learning- Dig Art Curriculum**

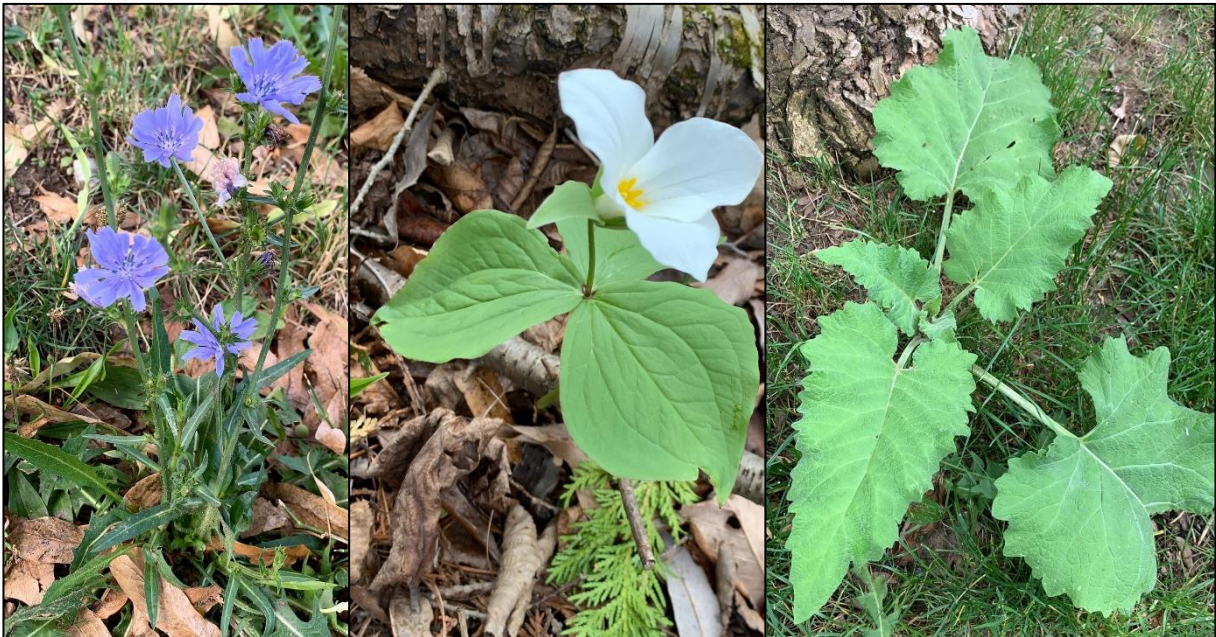
Have youth select an art project, art can be used to decorate the garden or meeting space. Example activities include:

- Printmaking: Painted Leaf Prints
- Gourd Crafting: Painting
- Leaf Print Casting
- Natural Fibers & Dyes: Weaving with Plants
- Natural Fibers & Dyes: Clothes Dyeing
- Photography in the Garden: The Human Camera



- **Learn their Names**

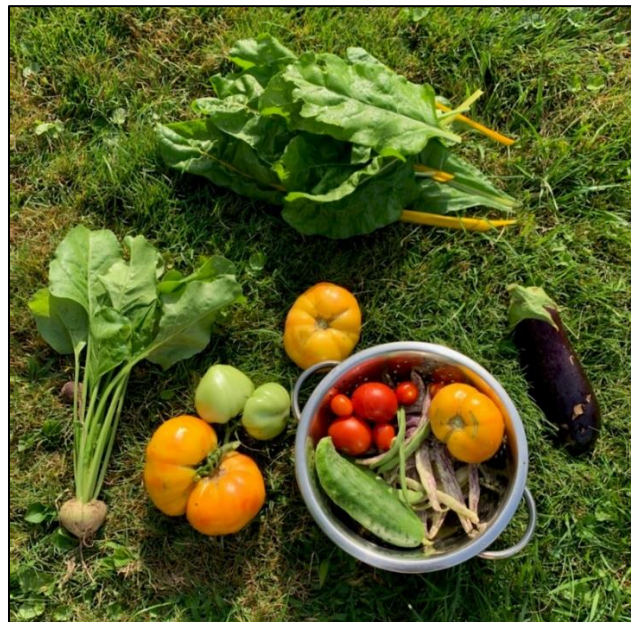
- Go on a nature walk, practice identifying a few common plant species in your area.



- **Plants have families too**

- Plants that are related and you might not recognize them or be aware of it. Here are the families of common plants grown in a vegetable garden. Have youth match the crop to its family!

Amaranth Family (Amaranthaceae) Beets Chard Spinach	Grass Family (Poaceae) Corn	Onion Family (Amaryllidaceae) Garlic Leek Onion
Cabbage Family (Brassicaceae) Broccoli Cabbage Cauliflower Collard Greens Kale Radish Turnip	Legume Family (Fabaceae) Bean Pea	Squash Family (Cucurbitaceae) Cantaloupe Cucumber Pumpkin Summer squash Watermelon Winter squash Zucchini
Carrot Family (Apiaceae) Carrots Cilantro Parsley Parsnips	Nightshade Family (Solanaceae) Eggplant Pepper Potato Tomatillo Tomato	Sunflower Family (Asteraceae) Artichoke Lettuce Sunflower



- **Sit Spot**

This is an exercise of observation, both simple and complex. It can be an effective way to learn your landscape as it encourages prolonged, thoughtful observation of one place in the natural world with you, the observer, continually noticing patterns and seeking information. The purpose of a sit spot is ultimately to improve and deepen your understanding of natural systems by devoting yourself to extended and possibly consistent time in them. This activity can be done as a one-time experience or can be done multiple times in the same space. Observing the same spot at different times of day and during different seasons allows you to see the dynamics of nature unfold. No matter how many times you visit a place, when you take the time to experience the space, there is always something new that you can learn from it.

To participate in a sit spot activity, find an outside space for the group to gather in a circle. Collect technology (phones, music devices, etc.) from the group. Let youth know that in this experience we are trying to be present in the moment. Share that we are going to engage in an activity that will bring our attention to the present moment. During the activity, we ask the group for silence. After an initial focus activity, we will place each person in a safe space, spread out throughout this area.

Focus activity: To bring focus to the present moment, invite each person to close their eyes or lower their gaze. Ask everyone to take a deep breath. Listen and try to hear three unique sounds. With your eyes still closed or gaze lowered, feel three unique textures. When they are ready, take another deep breath. They can open their eyes and identify three unique shades of green.

Place each person in a spot away from others, set a timer for 15 minutes or as much time that can be allowed for it, encourage youth to identify sights, sounds, textures, smells. They can journal, draw, or observe. Suggestions for focus:

- Examine the layers of vegetation, evidence of animals, patterns of past human use.
- Zoom your focus from the entire scene in front of you to the smallest leaf/insect/spec of earth. Then repeat; back and forth.

Pair up with a partner and discuss what you experienced.

- **Sit Spot: Companion Plant**

Have each person in the group select a plant to be their “companion plant.” This should be a plant that they have regular contact with and can be a plant they are growing or a plant found in nature (ex. a tree or bush they pass every day). Our hope is for youth to get to know this plant and move from a “usage” mindset to a “relationship” mindset. Encourage the youth to pause every time they see or pass by their “companion plant.” Have youth reflect upon what would a conversation be like with that plant. Encourage them to take photos, draw, learn about the plant (what is its name, what does it need to thrive), notice changes and reflect.

At the next meeting, check back in with youth and ask how their “companion plant” is doing.

Learn More

- [10 Ways to Be a Genuine Ally to Indigenous Communities](#) (2018) Amnesty International Australia
- [A Gardener’s Gratitude List](#) (2019) Penn State Extension
- [‘Forest gardens’ show how Native land stewardship can outdo nature](#) National Geographic
- [Guide to Indigenous Land Acknowledgement](#) (2019) Native Governance Center
- [Honor Native Land: A Guide and Call to Acknowledgment](#) U.S. Department of Arts and Culture
- [Mindful thoughts for Gardeners: Sowing Seeds of Awareness](#) (2018) by Clea Danaan, Leaping Hare Press
- [Native Science: Understanding and Respecting Other Ways of Thinking](#) (2016) by Linda Black Elk, Rangelands
- [Preparing Students for Difficult Conversations](#) [Facing History and Ourselves](#)
- [Returning the Gift](#) (2013) by Robin Wall Kimmerer, Center for Humans & Nature
- [The Serviceberry: An Economy of Abundance](#) (2020) by Robin Wall Kimmerer, Emergence Magazine
- [Tribal Land Acknowledgements- What they are and why we need to do them](#) (2021) by Claudia Fox Tree, Embracing Equity
- [You Belong to the Land: A Conversation with Karen Washington and Leah Penniman](#) (2019) by Katherine Kassouf Cummings, Minding Nature Journal

Videos

- [Bloom](#) Students in San José State University Animation & Illustration
- [TEDxMaui - Edwin ‘Ekolu’ Lindsey - Cultivating Cultural Seeds](#) (2012)
- [The Honorable Harvest - Robin Kimmerer](#) (2019) Bioneers
- [What foods did your ancestors enjoy?](#) Aparna Pallavi TEDxCapeTownWomen | December 2018
- [Why lakes and rivers should have the same rights as humans- Kelsey Leonard](#) TEDWomen (2019)



Gratitude Reflection

Think of someone or something that is important to you and ponder the following questions:

- Why is that someone or something important to you? What do you appreciate about them?
- How do you celebrate or show appreciation to what is important to you?
- How do you learn more about what is important to you?

Please write or draw any thoughts that come up for you in this process.

Gratitude: appreciation, the feeling of being thankful.





2.3 Markers of Inspiration

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Cultivate intentional awareness through creative expression.
- Work individually to inspire creativity while meeting criteria set by instructor/facilitator.
- Gain an understanding of different perspectives.

Life Skills

Decision making, planning/organizing, wise use of resources, communications, social skills, sharing, healthy lifestyle choices, self-esteem, self-responsibility, character

Time

15-20 minutes

Materials

- Rocks
- Paint and paint brushes, or paint markers
- Chalk / chalkboard paint – great way to reuse the same rocks for different groups (optional)
- Quote handout from [4.2 Voices in Justice](#) activity (optional)
- Table covering such as tarps or newspaper (optional)

Space

A space in which youth can paint rocks



Example markers of inspiration for the garden.

Introduction

Garden markers are a great way to add art, appreciation, and intention to your garden experience. In this activity, encourage youth to get creative. Youth can be encouraged to discuss or reflect on why someone might want a garden marker, especially one that inspires action. When presenting their markers to the larger group, youth gain an understanding of different perspectives. We interpret differently as individuals and this can be a great asset.

Before the Activity

Gather supplies and set up space for painting. Reflect upon what purpose these markers are for. Example purposes include markers that show appreciation to our space and markers that inspire you to take action.

Activity

Opening Questions (Choose questions suitable for the group, if appropriate pose the question to set the tone and do not seek an answer)

- How can we show appreciation to our spaces?
- What does action look like? Does it have to be uniform? Does it have to succeed to make an impact?

Experience

1. Provide general instructions for the purpose of garden markers. Share at the end, participants will be invited to show their creations and talk about why they chose to proceed the way they did.
2. Participants can work individually to craft their garden markers. You can share the quote handout from the [4.2 Voices in Justice](#) activity as inspiration.
3. Once youth have finished their creations, have them share as a whole group or in smaller groups. When youth share, invite them to talk about their markers. Ask youth about the rationale behind their decision-making. Welcome discussion on different interpretations of the directions to emphasize how different ideas can work together and build an even stronger idea.

Reflection Questions

- How did you decide what to paint?

Learn More

- [Boredom Busters](#) NC State Extension
- [Monroe County \(NY\) 4-H presents Making Garden Ornaments](#)
- [The Kindness Rocks Project™](#)

Acknowledgements

Originally written by: Catherine Combs



Example markers of inspiration for the garden.



2.4 Connecting with Elders

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Practice developing questions and critical thinking skills.
- Build communication and research skills while connecting with others in the local community.
- Reflect on life experience of others.
- Discover “other ways of knowing” through engagement with older adults.

Life Skills

Decision making, critical thinking, goal setting, planning/organizing, keeping records, communications, cooperation, social skills, empathy, sharing, leadership, contribution to group, marketable/useful skills, teamwork, managing feelings, self-discipline

Time

This activity can take place over multiple sessions. Timing can vary for each part. We suggest an hour for preparation, an hour for the interview, and an hour for sharing and reflection.

Materials

- Interview Practice Tips
- Writing utensils and paper for each person

Space

A place for group to brainstorm ideas and work independently. Interviews can take place at a site in the community or in regular meeting spot.



Introduction

In this activity, youth will plan for and interview a local food elder (older person) in their community. These elders can be any person connected to the food system. This connection could be and is not limited to having a personal garden, farming, working at a community or school garden, working in an organization championing food justice, working at a grocery store, or having a passion for cooking. Elders could be Master Gardener Volunteers, grandparents, neighbors, or anyone else willing to share food traditions from their culture. These interviews are meant to provide an opportunity for youth to learn about local garden efforts, food justice initiatives, food traditions from different cultures, and an understanding of how the food

system works for different people, while connecting with, and learning the value of, engaging with those with wisdom in the community.

Intergenerational connections are rewarding for the young and old. These interviews provide a space for elders to share their experience and expertise, and an opportunity for youth to be introduced to new ideas and interests. Preparing for and conducting interviews supports youth in developing life skills and building self-esteem and confidence. These interviews can help encourage open communication and cultural exchange.

Before the Activity

- Identify a person or group of people to interview. Interviews can be done one on one or in groups. Choose what format will work best for your group.
- Read over and cut out an “Interview Practice Tips” strip for each person.
- Depending on your group, their level of familiarity with food systems and person you are interviewing, it may be helpful to do activities [3.3 Journeying through our Food System](#), [3.4 Food System Influences](#), and [3.6 Let’s talk about Food Justice](#) before starting this activity.

Activity

Part One: Review what makes a good interview

1. Ask group: What is the last interview you have seen or of which you have been a part? Describe the interview — who was interviewed and who was asking questions? Was it formal or informal? What went well? What surprised you?
 - Notice trends or similar qualities listed. Share these with the group.
2. Review successful interviewing practices by handing out an interview practice tip strip to each person in the group. Have each person read their interview tip aloud one at a time. Ask if anyone has questions or needs clarification.

Part Two: Develop questions

1. Have the group brainstorm what they want to learn from the food elder interview.
 - The interview could focus on learning the history of the garden or community organization. When and how did it begin? What is its mission? How do they put this mission into action?
 - It could also include life lessons from the food elder. What does food justice mean to them? Who taught them important skills? When did their passion develop? What advice do they have to share?
 - There could be questions that focus on the differences across their life span. What is different now from when they first began gardening — in their gardens, their families, their communities. What do they most appreciate about the changes? What do they find more challenging?

2. Once establishing what they want to learn, have youth create a list of interview questions. Have youth share the questions they generated in pairs or small groups. Have groups offer feedback to one another.

Part Three: Conduct interview

1. Youth conduct the interview. The interview could be videotaped or recorded if they obtain permission.

Part Four: Reflect and share

1. Have youth present what they learned from the interviews. This can be an informal sharing in a circle or formal presentations.
2. After presenting, reflect on the experience. How did you feel doing the interview? Did anything surprise you? What did you learn?

Variations

- Have youth decide who they would like to interview. This can be done independently or in a brainstorming session. Encourage youth to reach out to someone they do not know. Requests from youth are often taken to heart and are sometimes more likely to be fulfilled than a request from an adult.
- The [StoryCorps](#) app can be a useful tool to record interviews.

Learn More

- [Building a Community Legacy Together](#) Cornell Institute for Translational Research on Aging
- [Food Traditions Interview](#) Center for Ecoliteracy
- [Great Interviews in Three Steps](#) Cornell Garden-Based Learning
- [Life Interview Questions](#) Legacy Project
- [The importance of intergenerational bonding](#) University of Wisconsin-Madison Extension
- [Tips for a Great Conversation](#) Story Corps
- [What foods did your ancestors enjoy?](#) Aparna Pallavi TEDxCapeTownWomen



Practice Positive Interviewing Skills: Smile and introduce yourself.

Practice Positive Interviewing Skills: Maintain good eye contact and speak clearly.

Practice Positive Interviewing Skills: Use good listening skills. When the person you are interviewing is talking, pay attention to what that person is saying.

Gather Quality Responses: Use interview questions that are simple, yet open ended enough as to take the interviewee down a rich path. Examples are "What surprised you?" "What inspired you?" "What was easy?" "What was hard?" "What did you hope to achieve?"

Gather Quality Responses: Stay with the person's language and echo words the person is using, not what you think they might or should be feeling. You said this was an impossible situation – could you say more about what that means to you? What do you mean when you said you felt frustrated?

Gather Quality Responses: Avoid leading with the word “why” as it can imply criticism and provoke defensiveness. The most powerful questions are expansive and seek to raise awareness, using words such as what, when, who, how much and how many. Shifting from “Why did you do that?” to “what were the factors that led to that decision?” changes the question entirely.

Gather Quality Responses: Avoid questions with right/wrong and yes/no responses.

Gather Quality Responses: Your voice is an important communication tool; use it to help the person you are interviewing understand the questions and responses without suggesting one choice over another.

Gather Quality Responses: Repeat question and response options if the person does not give an answer among those options or gives more than one answer.

Gather Quality Responses: Use a probe question, such as: “What did you mean by that answer?” or “Could you be more specific about that?” if you find the person's response confusing or off topic. If the person is silent, try “Anything Else?”

Gather Quality Responses: When recording an open-ended question without specific response options, read the words back to the person. This gives the person a chance to make sure the response accurately reflects his or her opinion.

End Positively: Thank the person you interviewed for his/her time. Ask if you can follow up if you think of another question later.

Tips adapted from Unit 3 of *Gardening in a Warming World: Youth Grow* curriculum from Cornell Garden-Based Learning.



2.5 Reading a Seed Packet

Skill Level

Intermediate, Advanced

Learner Outcomes

- Learn to read a seed packet for information on when and how to plant the seeds.

Life Skills

Decision making, planning/organizing, communications, social skills, sharing, contribution to group, teamwork

Time

10 minutes

Materials

- Seed packets, ideally a variety of fruits and vegetables. This activity works best if each youth has a seed packet to look at.

Space

Open area with space for youth to move around and form a line

Introduction

In this activity, youth will get up and moving as they practice reading seed packets. This activity can be done before planning the garden or planting the garden. Seed packets can be considered the “recipe” for specific plants as they provide useful information on how to plant the seed, when to plant the seeds, and the conditions they need to thrive. When planning out a garden, youth will need to consider plant spacing and timing.

The seed packet usually provides information on the height and width of the mature plant. Plant height is important to consider to avoid taller plants shading out shorter plants. Mature plant width tells us how far apart plants should be spaced from one another.

The seed packet usually provides information on when to plant. Different plants can be planted outside at different times of the year, depending on whether they prefer cool or warm temperatures. For example, there are plants that can be sown in cool soil in spring and fall (e.g. lettuce and other salad greens, peas, spring onions) and there are those that need warm soil to germinate (e.g. carrots, corn, cucumbers, peppers, summer squash, tomatoes, zucchini). Additionally, keep harvest in mind when deciding when to plant. Make sure you have enough time in the growing season for the plant to be mature for harvest.

Note to facilitators: This activity contains new concepts for some. Remember you do not have to facilitate this all this alone. Guidance from a neighbor with a passion for

gardening or a Master Gardener Volunteer with experience working with youth could be helpful and offer new perspective.

Vocabulary

Sow: to plant a seed for growth

Germinate: to sprout or begin to grow

How to read a seed packet

This Packet Plants to	18-30"
Light Requirements	full sun
Days To Germination	6-14
Soil Temp. For Germ.	70-90°
Seed Depth	1/4"

PLEASE READ OUR SEED WARNINGS BEFORE OPENING THIS ENVELOPE

When to start your seeds indoors and outdoors, in relation to average last frost date. (Some crops, like tomatoes, are not suited to sowing outdoors.)

Seed packet © by Territorial Seed Company. All rights reserved. Reprinted by permission of Territorial Seed Company.

How to read a seed packet from *Seed to Supper Handbook- NYS 2019 Edition (Page 29)*

Activity

Opening Questions

- What do you need to know when planting a seed? (This could include how deep to plant, plant spacing, when to plant, sunlight needs, time till germination and harvest, etc.)

Experience

1. Hand everyone in the group a seed packet and invite them to explore. Ask the group, what types of information they see.
2. Have a group member share the type of seed they have, an information category they see on their seed packet, and the information provided in that category. Ask others if they have that same type of information on their packet and to share with the group the name of their crop and the information. For example, Jamie could share they see "Sun/Shade" on their tomato packet. Sun/shade is listed as

“full sun.” Others investigate to see if they can find sun/shade requirements on their own seed packets.

3. Continue in this way of sharing and go through the main information categories: how deeply to plant, plant spacing, when to plant, sunlight needs, time till germination and harvest. It can be rewarding for each group member to share what the specifics are on their seed packet.
4. At the point at which germination time is mentioned, make sure everyone in the group understands what this word means. Germinate means to sprout or start to grow. Have the group line up in order of germination time, sometimes referred to as “time to emergence,” on their seed packets. Shortest germination time to longest germination time. Go down the line, have youth read their crop and its germination time, see how well everyone did! This can be done with other categories on the seed packet as well such as plant height, seed depth, and time to harvest.

Reflection Questions

- What is one thing you will take away from our time together today?

Extensions

- Explore the power of seeds through seed dissections. Every seed contains three basic parts—the embryo (baby plant), cotyledons (food source), and seed coat (protection). It can be relatively simple to dissect and find these parts in larger seeds such as beans.
- We interact with seeds numerous times a day and may not even know it! Most cooking and baking flours are ground up seeds (e.g. wheat, corn, oat, etc.). We use seeds to make oils for preparing foods. We eat seeds directly such as nuts and legumes. Conduct a seed scavenger hunt to see how many seeds you can find!



Photo by [Maddi Bazzocco](#) on [Unsplash](#)

Learn More

- Contact your local Cooperative Extension office for garden and plant related questions: [Cornell Cooperative Extension Offices \(NY State\)](#) and [USDA Land-Grant University Website Directory](#)
- [Information on Seed Packets](#) Penn State Extension
- [Seed and Seedling Biology](#) Penn State Extension
- [Understanding the Seed Packet](#) University of Nebraska-Lincoln Extension



2.6 Imagine, Plan, Plant

Skill Level

Beginning, Intermediate, Advanced

Learner Outcomes

- Explore what foods you like to eat.
- Develop basic understanding of plant needs and discover what can realistically be grown in your region.
- Practice designing a food garden using life-size plant footprints in groups.
- Develop a collective group design for the garden.

Life Skills

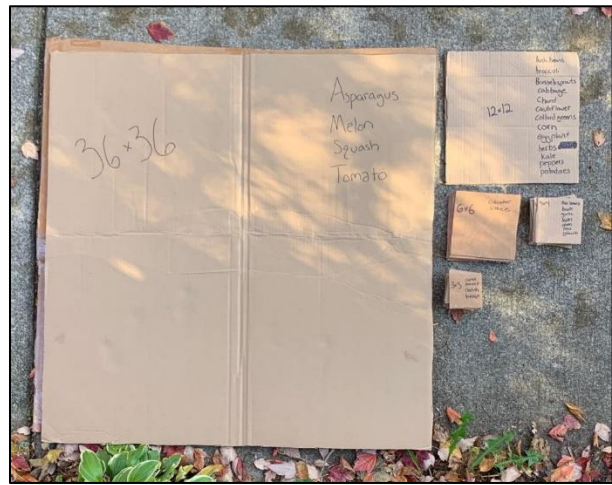
Decision making, problem solving, critical thinking, learning to learn, planning/organizing, wise use of resources, communications, cooperation, social skills, conflict resolution, accepting differences, sharing, marketing/useful skills, teamwork, contribution to group

Time

45-60 minutes

Materials

- A piece of paper that says “I love it” and a piece of paper that says “Not my favorite”
- Plant footprint squares of various sizes, made from poster board or cardboard: 3”x 3,” 4”x 4,” 6”x 6,” 12”x 12,” 36”x36”
 - You will need multiple squares of the smaller sizes; for the larger sizes (“12 x 12” and “36 x 36”) you only need a few of each.
 - It is helpful to write the names of the plants that correspond to each size on the footprints. See Common Crop Chart and example photos.
- Sample Planting Maps handout
- Common Crop Chart handout
- Garden Puzzles handout
- Measuring tape
- String, yarn, or twine to mark out garden space



Example plant footprints.

Space

Open area with ground or table space for youth to move around and to layout plant footprint garden designs

Introduction

In this activity, youth will explore foods they enjoy eating and foods that can be grown in their garden spaces. A garden is anywhere in which you intentionally cultivate plants. This can be a backyard garden, indoor kitchen scrap garden, house plant garden, sprouts garden, microgreen garden, vegetable garden, herb garden, and more. For any type of garden, planning can help us to achieve our hoped-for results.

Youth will learn different factors that can be considered when planning a garden including plant spacing and timing. There are so many things to consider when planning a garden! A few basics to consider—when to plant (keeping in mind season and climate), where to plant (keeping in mind sunlight and water availability), personal taste, and aesthetics.

Plants grow better and are healthier when they have enough space. Different vegetable plants vary in height. Make sure to space taller plants behind shorter plants, so they don't block the sun.

Often left out of garden plans is how we (the gardeners) can access the space. Including paths within the garden and around borders for access is important to ensure that we do not walk on the plants; in addition, having space to work ensures a more pleasing garden atmosphere, meaning that we are more likely to go there.

Plant timing can play a role in how much food you are able to grow in your space. We can grow more vegetables in the same space by doing succession planting. This strategy involves planting cool-season (spring and fall) plants and warm-season (summer) plants in the same space, and requires knowledge of harvest times so the plants you have in your plot can change as you go from spring to summer to fall.

This activity has youth practicing designing their food garden using life-size plant footprints. It can be overwhelming for first time gardeners to plan their garden. Plant footprints help youth visualize how much space is needed for mature vegetable plants and plan out a garden plot in a way that feels 'real' and tangible.

When planning with your group, keep it simple! It is better to have a positive experience growing a small successful garden than to create a larger garden that gets neglected and reinforces the notion that "gardening is too much work." There truly is no one right way to plan a space, beyond the basics offered above. Focus on what the people and plants need and make a plan to meet those needs. Throughout this process, we encourage group reflection.

Note to facilitators: This activity contains new concepts for some. Remember you do not have to facilitate this this alone. Guidance from a neighbor with a passion for gardening or a Master Gardener Volunteer with experience working with youth could be helpful and offer new perspective.

Vocabulary

Garden: any space you intentionally cultivate plants

Succession planting: refers to a few planting methods that allow for more crops to grow within time and space

Plant footprint: the amount of space a mature plant will take up in the garden

Before the Activity

- Brainstorm a list of plants that can be grown in your garden space. Think of space, climate, and time restraints, as well as plants that may be easier for beginners. Have this list in mind as the group designs their food garden.
- Hang a paper that says “I love it” and a paper that says “Not my favorite” on opposite sides of the meeting space.

Activity

Opening Questions

- Ask the group, who has planted something before? What went well? What would you have done differently?
- What are some things you think about when planning? What do plants need?

If you have already planted microgreens together, connect to what you have previously discussed.

Experience

1. The first thing to think about when planning a garden: what plants you want to grow! Think about the harvest, and what plants we like and will eat. Get a feel for the group’s taste buds. Ask the group what they like to eat, list food items on a board or paper.
2. Make a taste spectrum for fruits and vegetables that can grow in your area. On one side of a line (real or imaginary), hang a paper that says “I love it” and hang a paper that says “Not my favorite” on the other side. Call out different vegetables (ex. broccoli, carrots, lettuce, radish, etc.), have youth stand where they feel about eating the vegetable.
3. After thinking about what you like to eat (or think you like to eat), the next things to think about is what can be grown and what is realistic and cost-effective for your garden space. If you are planting an indoor garden, tomatoes may be challenging due to pollination and space needs. You cannot grow oranges



Listing out what foods the group enjoys.

outdoors in New York. Emphasize to the group that we will focus on what we can grow in the space that we have.

4. Make an outline of a garden space, use tape, twine, sticks, or whatever you have on hand to mark out the boundaries of a garden space. Ask the group, what are some things to think about when planning a garden (i.e. what, where, when). Things to think about when planning— when to plant (keeping in mind season and climate), where to plant (keeping in mind sunlight and water availability), personal taste, aesthetics, and the workability/access of the space. Remember you want to plant taller plants on the north side of the garden, so they don't shade the shorter plants. During the discussion, explain concepts using the plant footprints to represent plants. Pass around example garden plans and common crop chart.



Group plans garden using plant footprints.

5. Break into groups of 3-4 youth to practice planning a garden space using “garden puzzle” scenarios. Assign each group a different scenario. Use the scenarios below or come up with other realistic scenarios that best fit the space you have. Remind them, there is not one right way to plan to a garden and they do not have to include all of the plants suggested in the scenario in their design. Think of what the people and plants need to thrive. Groups can plan their gardens using plant footprints or drawing paper.
6. First, have the group mark out garden boundaries (use tape, twine, sticks, or whatever you have on hand).
7. As the facilitator, walk around to groups and check in on their progress. Encourage participants to continually step back and reflect. Do we have too much of one thing?

8. Have groups plan their garden for 10-15 minutes and then have each group present their designs to the larger group.
9. After groups present their designs, ask what do they like about the design? What plants did they put in specific spaces and why? Focus on specific plants and the design as a whole. Ask what is the season in which they would plant?
10. Once each group has presented, discuss what their actual garden will look like (space and time allotted). Come up with a theme for the garden and have the group create a collective design.

Reflection Questions (choose a few that work best for your group)

- How did it feel to plan out our garden? Did you have any thoughts or feelings that you did not expect? How did it feel to work in groups?
- In what other areas of your life, do you make plans similar to what we did today (ex. planning meals, school, job, etc.)? How can planning help achieve your goals?
- If you had to teach someone how to plant a garden, where would you start? How would you do it?

Variations

- Use the scenarios provided or come up with scenarios that best meet your group's needs. If you need more scenarios, consider changing the size of the garden (e.g. "pizza garden" in 4' x 8'; bed becomes "mini pizza garden" in 4' x 4' bed). If your garden will be in an indoor space, consider having a scenario using container gardens. You can make plant footprints represented by planting trays, containers, or pots. See example below:
 - *Vegetable Confetti!* - You want to grow broccoli, kale, radish, and sunflower microgreens on a 4' x 6' table for a microgreens party in 2 months. When do we plant each vegetable/herb, and where does it go?
- For a more advanced group, emphasize the importance of timing when planting. Explain the differences between cool-season (spring and fall) and warm-season plants (summer). If the garden is outside, the group can grow more vegetables in the same space by doing succession sowing and having plans for spring, summer and fall gardens. Ask the group to design a spring and summer planting plan for the garden.
- [Seed to Salad: Designing quilt block salad gardens](#) Cornell Garden-Based Learning activity

Extensions

- Play around with different garden shapes in garden design (ex. circles or whatever your group can imagine). Explore permaculture design which often uses

“keyholes” which can maximize garden bed space and minimize path space for those with limited space.

- Choose something from the list of crops that most youth do not like (or think they do not like) and prepare it two different ways. For example, you might conduct a taste test with Brussels sprouts, and try them boiled, as well as roasted with a little garlic and olive oil (and a grating of fresh parmesan cheese, if young people eat dairy) to discover the difference.

Learn More

- Contact your local Cooperative Extension office for garden and plant related questions: [Cornell Cooperative Extension Offices \(NY State\)](#) and [USDA Land-Grant University Website Directory](#)
- [How does your garden grow?](#) National Agriculture in the Classroom (lesson plan)
- [Vegetable and Herb Gardening in Containers](#) Cornell Garden-Based Learning

Acknowledgements

This activity was adapted from the *NYS Seed to Supper* curriculum* Cornell Garden-Based Learning activity “Design a Garden Using Plant Footprints.”

References: Chapter 1 – Planning Your Garden

** NYS Seed to Supper curriculum was adapted with permission from Seed to Supper joint program of Oregon Food Bank and Oregon State University Extension Service. Any courses based upon these materials, are to be offered equitably and free of charge.*



Garden Puzzles

Scenario 1: Pizza Garden

You want to grow a garden in a 4' x 8' raised bed in a community garden for a fall pizza celebration. Plants included could be basil, onions, oregano, peppers, spinach, and tomatoes. When do we plant each vegetable/herb, and where does it go?

Scenario 2: Glamorous Greens Garden

You want to grow a garden in a 4' x 4' raised bed at your school for a summer celebration. Plants included could be cabbage, chard, collard greens, green peppers, kale, lettuce, and spinach. When do we plant each vegetable/herb, and where does it go?

Scenario 3: Savory Salad Garden

You want to grow a garden in a 4' x 6' raised bed at your local community center for a summer salad celebration. Plants included could be beans, cucumbers, lettuce, onions, peppers, radishes, spinach, and tomatoes. When do we plant each vegetable/herb, and where does it go?

Scenario 4: Bad Reputation Garden (The things you don't think you'll like)

You want to grow a garden in a 3' x 8' raised bed at your local food co-op for a fall harvest celebration. Plants included could be beets, beans, broccoli, Brussel sprouts, cabbage, collard greens, kale, and tomatoes. When do we plant each vegetable/herb, and where does it go?

New York Common Crop Chart

Crop	Planting Window	Footprint	Planting method	Height	Days to harvest	Expected Yield per plant
Asparagus	April - June	36" x 36"	Transplant (1-year old crowns)	> 36"	2 years	½ to ¾ pound
Beans, Snap (bush)	May - July	12" x 12"	Direct Seed	12" - 36"	60-70	¼ pound
Beans, Snap (pole)	May - June	4" x 4" trellised	Direct Seed	> 36"	70-90	½ to ¾ pound
Beets	April-June	4" x 4"	Direct Seed	< 12"	50-80	1 root
Broccoli	April-Aug	12" x 12"	Transplant	12" - 36"	55-90	1 pound
Brussels Sprouts	May-June	12" x 12"	Transplant	12" - 36"	110-120	1 ½ pounds
Cabbage	April-June	12" x 12"	Transplant	12" - 36"	80-90	1 head
Carrots	April-July 15	3" x 3"	Direct Seed	< 12"	70-90	1 root
Cauliflower	April-July 15	12" x 12"	Transplant	12" - 36"	90-150	1 ¾ pounds
Chard	April-July	12" x 12"	Direct Seed	12" - 36"	50-60	1 ½ pounds
Collard greens	May-July	12" x 12"	Transplant	12" - 36"	80-100	2 pounds
Corn (sweet)	April-June	12" x 12"	Direct Seed	> 36"	70-110	1 ear
Cucumbers	May-June	6" x 6" trellised	Transplant	12" - 36"	55-75	4 fruits
Eggplant	May-June	12" X 12"	Transplant	12" - 36"	70-75	2 to 3 fruit
Garlic	Sept-Oct	4" x 4"	Direct Seed	< 12"	220-300	1 bulb
Herbs (annual)	April-June	12" X 12"	Direct Seed / Transplant	< 12"	60-90	variable
Herbs (perennial)	Fall or spring	12" X 12"	Transplant	12" - 36"	Perennial	variable
Kale	May-July	12" x 12"	Transplant	12" - 36"	60-70	1 ½ pounds
Leeks	April-May	4" x 4"	Transplant	< 12"	120	1 stem
Lettuce	April-Sept	6" x 6"	Direct Seed / Transplant	< 12"	65-80	1 plant
Melons	June-July	36" x 36" vine	Direct Seed / Transplant	12" - 36"	55-85	2 to 3 melons
Onions	April-May	4" x 4"	Transplant	< 12"	100-120	1 bulb
Peas	March-May	4" x 4" trellised	Direct Seed	12" - 36"	75-100	¼ pound
Peppers	May-June	12" x 12"	Transplant	12" - 36"	80-100	4 pounds
Potatoes	April-June	12" x 12"	Direct Seed (seed potatoes)	12" - 36"	70-120	2 to 3 pounds
Radishes	March-Sept	3" x 3"	Direct Seed	< 12"	25-35	1 root
Spinach	April & Sept	4" x 4"	Direct Seed	< 12"	40-50	⅛ pound
Squash, Summer	May-June	36" x 36"	Transplant	12" - 36"	55-70	4 to 5 fruit
Squash, Winter	May	36" x 36" vine	Direct Seed / Transplant	12" - 36"	90-150	10 pounds
Tomatoes	May	36" x 36"	Transplant	> 36"	60-85	10 to 20 pounds
Turnips / Parsnips	April-May	3" x 3"	Direct Seed	< 12"	110-120	1 root

Adapted from NYS Seed to Supper Handbook - Common Crop Chart

Crop Footprint Sizes

3" x 3"
Carrots
Parsnips
Radishes
Turnips

4" x 4"
Beans, Snap (pole) - trellised
Beets
Garlic
Leeks
Onions
Peas - trellised
Spinach

6" x 6"
Cucumber - trellised
Lettuce

12" x 12"
Beans, Snap (bush)
Broccoli
Brussel Sprouts
Cabbage
Cauliflower
Chard
Collard Greens
Corn
Egg Plant
Herbs
Kale
Peppers
Potatoes

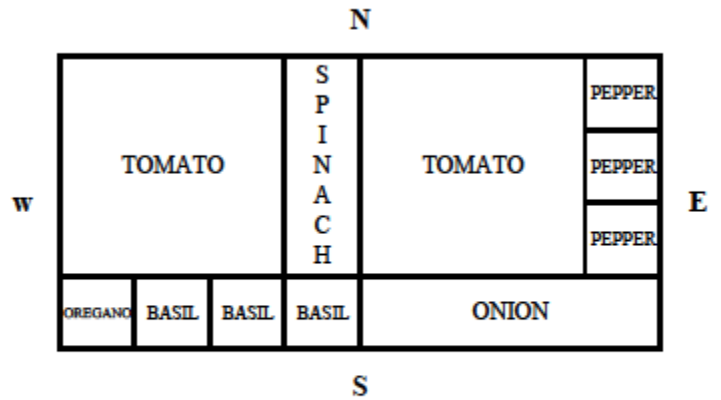
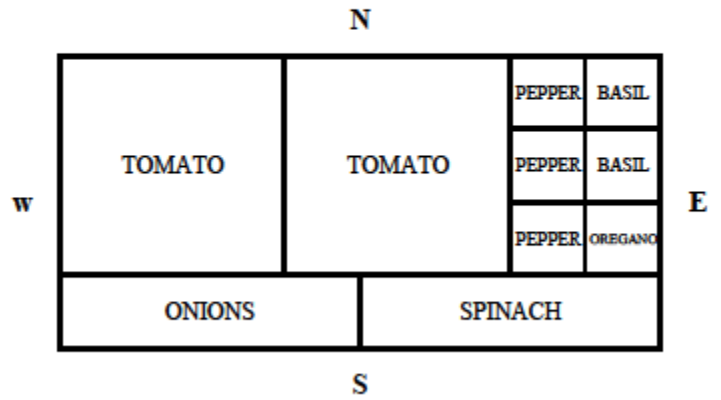
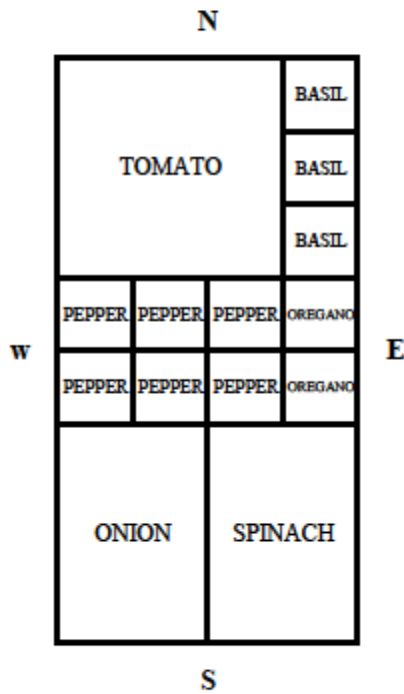
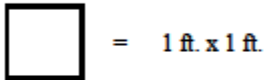
36" x 36"
Asparagus
Melon
Squash, Summer
Squash, Winter
Tomato

Adapted from NYS Seed to Supper Handbook - Common Crop Chart

Sample Planting Maps

Pizza Garden

Example designs for a 4 ft. x 8 ft. garden bed



Voices in Food Justice:

Angela Ferguson spotlight in Rematriation Magazine

Video link: <https://vimeo.com/394851087/529e49d92a>

In this film spotlight, Angela Ferguson from the [Onondaga Nation](#) shows us how she creates food sovereignty in the heart of the Haudenosaunee Confederacy. Ferguson shares a bit of her story, her stewardship with the Carl Barn's Seed Collection and Braiding the Sacred, and the story of the Onondaga Nation farm.

[Rematriation](#) is a Haudenosaunee-led, digital storytelling platform connecting Haudenosaunee and Indigenous women across Turtle Island and around the world. They rematriate through Indigenous women-led, in person gatherings; online, Indigenous women-only spaces; and initiatives designed to educate the public and build allies.



Angela Ferguson on Onondaga Nation farm. Photo provided by Rematriation Magazine.

Learn more about the Indigenous Women's Voices video series from Rematriation Magazine that this film is a part of below after the discussion questions.

[Braiding the Sacred](#), "a movement of indigenous corn cultures," is a growing network of indigenous Corn growers coming together to sustain and share their traditional varieties of corn.

Learn more about the [thousands of historical seeds preserved by the Onondaga Nation Farm](#) in this article from Indian Country today by Scarlett Lisjak.

Below are some possible discussion questions after watching the film:

- How did you feel watching the film? With what/whom did you connect; why might this be?
- What do you think Angela means when she talks about restoring health with food?
- How can seeds be considered relatives?
- How do you connect with your elders? Your ancestors?
- How can gardening encourage community?

Rematriation Magazine has centered the voices of 9 Indigenous women in a short video series that shares stories of resilience, leadership, spirituality and healing.

Raising Indigenous women's voices through a media platform, Rematriation Magazine is helping to bring about global healing and shift human consciousness toward caring for the sacred life. The 9 part series features the Bear Clan Mother, Wakarekats:teh who speaks about spiritual leadership, Grammy Award winning musician Joanne Shenandoah who speaks about sacred healing, and global fashion icon Patricia Michaels who speaks about spiritual teachings held within fashion. Each woman shares a glimpse into her life, and how the teachings of being a sacred life-giver flow through her work.

Led by an all women, mostly Indigenous team, the series is directed by Katsitsionni Fox who is from the Akwesasne Mohawk Nation. An award winning director for her film, *Ohero:kon Under the Husk*, Fox stays true to her story telling style of authentically lifting Indigenous voices and the significance of the natural world onto the screen. Produced by Michelle Schenandoah, from the Oneida Nation. Schenandoah is the founder and editor-in-chief for Rematriation Magazine and co-owner of Indigenous Concepts Consulting. Cinematographer and editor for the series is, Marie Cecile Dietlin, a documentary filmmaker who filmed *Ohero:kon* and *Idle No More*. Dietlin, Fox and Schenandoah also co-created the documentary, *An Indigenous Response to #MeToo*.

Rematriation Magazine is a multi-media e-magazine, by and for Indigenous women that takes the daily Indigenous led conversations about spirituality, decolonization, rematriation, land back, legal challenges and food sovereignty onto a national platform, while weaving together powerful intentions of Indigenous women to care for the land and future generations. The online magazine features Indigenous women powerhouses who are literally saving Indigenous communities from the social ills of colonization.

The video series advances a dialogue about the power of using voices and culture to empower and unite as one humanity. By shifting the narratives, the magazine shatters existing social and racial barriers presently fueled by stereotypes and hypersexualization of Native American women, a central cause to the systemic violence perpetrated against Indigenous women.

Indigenous women are the leaders for their communities, and have been since time immemorial, but colonization erased that history. By sharing personal stories and traditional wisdom through the lens of today, Rematriation Magazine's film series furthers a dialogue about dismantling social injustice through a spiritually grounded lens. The spiritual groundedness is so subtle that non-Indigenous world has overlooked for generations. Now that the world has taken pause, it's time to listen to the voice of Indigenous women and begin to understand a world view needed for the survival of humanity.

Unit Three: Sowing Seeds of Curiosity

Introduction

In **Unit Three: Sowing Seeds of Curiosity**, we map out the food system and begin to understand how it impacts us and our spaces. We define terms important to food justice and reflect upon how we can focus on our strengths to take action. We plant the garden.

As we begin to discuss the food system and food justice, we ground ourselves in our individual strengths and what we already know about these topics. As beings who eat food, we all participate in the food system and have varying degrees of familiarity with its parts and influences. To begin understanding its complexity, we break the food system into six main parts—growing, processing, distributing, accessing, eating, and disposing. We explore each part by mapping a snack’s journey from field to fork to disposal.

Youth are encouraged to reflect upon where they see themselves in the food system and how the food system affects people. The struggle for all people to have access to healthy, affordable, and culturally appropriate food is complex. Developing common language around food justice helps to articulate tough issues and inspire solutions.

In planting and caring for the garden, youth discover the power of growing one’s own food to provide families and communities with healthy, accessible, affordable food. In a world troubled by food insecurity and a changing climate, youth gardeners experience firsthand the resilience, confidence, and connection that this time-honored practice brings.

We encourage the facilitator to read over the unit and curriculum in its entirety before use, since many activities are complementary. This curriculum may at times lead to uncomfortable conversations. It is important to remember as the facilitator, it is okay to experience discomfort, and it is also okay if you do not have all of the answers; in addition, we may not find the answers. When you start to feel uncomfortable, we invite you to pause, slow down, wonder into the nature of the discomfort, and allow some “room” for it. You may not always need to speak or intervene. In fact, allowing for some space in which to reflect is an important part of engaging with justice.

Target Objectives

- **Collaborate** to identify the steps a common snack food takes from field to fork.
- **Explore** what one’s role in the food system can be.
- **Develop** a collective understanding of what justice is and commonly used food justice terms.
- **Reflect** upon how the food system affects people.
- **Understand** one’s strengths and perceived weaknesses are related.
- **Plant** the garden and develop understanding of plant needs and care.



3.1 Complexities of Strength

Skill Level

Intermediate, Advanced

Learner Outcomes

- Reflect on our strengths.
- Develop understanding that our strengths are often related to our weaknesses.
- Learn an important aspect of positive youth development.

Life Skills

Decision making, critical thinking, communications, social skills, concern for others, empathy, sharing, self-motivation, self-esteem, self-responsibility, managing feelings

Time

10-20 minutes or longer depending how much processing you do



Materials

- Cards displaying a strength on one side and a corresponding perceived weakness on the other
 - These can be made out of paper; see template at end of document (you can print the card template on card stock and fold them).
 - These can be made using small post-it notes. Write the strength on one side and a corresponding weakness on the other.
- Markers (if having youth create their own cards)

Space

Indoor or outdoor activity, room for people to move around

Introduction

In this activity, we hope to get the group thinking about how our strengths show up with, and can be related to our weaknesses, they are two sides of the same coin—and trying to tamp one down will always impact the other. In addition, this can offer a helpful reflection on the ways in which adults often view the same quality negatively in a young person and positively in an adult. For example, teenage youth may be described as difficult or stubborn, whereas that same quality in adults is perceived as persistence. This is a foundation in positive youth development and an important concept for young people to understand—their “stubbornness,” or ability to persevere, can be used to positively impact our food system.

Before the Activity

Read through the card templates to decide which could be appropriate for your group. Feel free to make new ones and have youth create their own if appropriate. Have the cards filled out with the strengths/weaknesses listed below. Tape the cards up on the wall or display on a table with the strength showing.

Activity

Opening Questions (Choose questions suitable for the group, if appropriate pose the question to set the tone and do not seek an answer)

- What words would someone use to describe you? What words would you use to describe yourself?

Experience

1. Ask youth to view the cards with strength side up. Have them choose one to three strengths that best fit them. Have them take the card(s) they choose.
2. Have youth gather in a circle and go around the circle and introduce themselves including their strength. Example: “My name is Lori, and I’m Enthusiastic.”
3. Next have the participants flip their cards over and go around again quickly introducing themselves again and including their weakness. Example: “My name is Lori, and I’m Loud.” There is usually a noticeable difference in how people feel after the second introductions.

Reflection Questions (choose one or a few that work best for your group)

- How did it feel to introduce yourself the first time? How was it different the second time?
- Are the two different descriptions related? What was important about what you just experienced?
- How do other people usually see you? How would you like other people to see you? What have you experienced in your interactions with adults?
- Give an example of when a strength has helped you.









Variations







- Ask participants to find a card that best fits them. Let them know that if they don't find one that fits to create one of their own. Ask them to mill around and find one other person with whom to share their card, including the flip side. As part of the sharing, have them give examples of the strength in their life and how it fits with the weakness. After they have shared with one other person, have them find another partner and repeat the activity. Re-convene to a larger group and continue with reflection questions.







Acknowledgements

This activity has been modified from “Coins of Strength” activity created by Cathann A. Kress.







Card Template







Many Interests 	Fun Loving 	Flexible 	Carefree 	Determined 	Enthusiastic 
Short Attention Span	Irresponsible	Unpredictable	Impulsive	Stubborn	Loud







Risk Taker 	Cautious 	Dramatic 	Skilled Leader 	Creative 	Eager 
Tests Limits	Anxious	Explosive	Bossy	Disorganized	Impatient

Nonconformist 	Friendly 	Analytical 	Organized 	Spontaneous 	Quiet 
Rebellious	Talks Too Much	Critical	Rigid	Impulsive	Aloof

Card Template

Detail-Oriented 	Energetic 	Independent 	Big Picture Thinker 	Imaginative 	Playful 
Takes Too Much Time	Intense	Argumentative	Head in the Clouds	Always Daydreaming	Irresponsible

Rational 	Curious 	Self-disciplined 	Trusting 	Sensible 	Competitive 
Uncaring	Nosy	Stick in the Mud	Gullible	Boring	Aggressive

Clever 	Team Player 	<hr/> 	<hr/> 	<hr/> 	<hr/> 
Smart Aleck	Dependent	<hr/>	<hr/>	<hr/>	<hr/>



3.2 Where Do You Land?

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Critically think about where your food comes from.
- Explore your role in the food system.

Life Skills

Critical thinking, decision making, communication, accepting differences, social skills, sharing, managing feelings

Time

10 minutes

Materials

- 2 sheets of paper
- 1 permanent marker
- Tape



Photo by Megan Thomas on Unsplash

Space

Open area in which to move around and have youth form a line, and a location on either end of the line on which to hang signs

Introduction

This activity is intended to promote curiosity and help figure out where we would appreciate more learning, which ultimately helps inform our actions.

Systems, food systems, where our food comes from...issues related to how food is grown.... So much information! So many opinions! There is no way that any of us know it all. And we don't have to, since collaboration and working with others allows for our strengths to shine, and others' strengths and wisdom to inform the areas in which we are less confident.

Vocabulary

Food system: The journey that food travels from field to fork and beyond, which includes growing, harvesting, processing, packaging, transporting, marketing, consuming, and disposing. It includes the inputs needed and the outputs generated at each step.

Before the Activity

- Prepare two sheets of paper, one that says "I am confident about this" and the other that says "I have no idea" and place them at opposite ends of the space, so that the youth can form a straight line between them. (You may want to make a

straight line on the floor between them using a piece of string, painter's tape, or chalk.)

- Read over possible statements and choose the ones that will work best for your group. Suggested statements have been broken up into beginner and intermediate/advanced levels. That being said, feel free to pick and choose which statements will work best for your group. Choose up to six statements.



Activity

Opening Questions (Choose questions suitable for the group, if appropriate pose the question to set the tone and do not seek an answer)

- What do we know about food systems?
- What level of confidence do we have in our ability to influence our food systems?

Experience

1. Explain that you will read out a series of statements with which people may agree to a greater or lesser extent.
2. Point out the two extreme positions: the signs stating, “I am confident about this” and “I have no idea.” Explain that people may occupy any point along the spectrum of the imaginary line. There is no right or wrong position. Owning where we need to learn more is an act of courage and humility – important qualities in any leader.
3. Read the statements aloud. As you read the statements, you can vary the rhythm. Some statements can be read out in quick succession, while others may stimulate discussion.
 - In between statements, there can be opportunities for reflection and discussion. For example, you can ask if a few youth want to share why they choose their particular positions, or why their position changed or stayed the same among statements. You can also allow participants to move positions as they listen to each other's comments. All the while, it is important to convey this in a neutral tone – since we are not rewarding “knowing it all,” rather, the vulnerability to seek to raise one's awareness.

Statements

Beginner:

- ❖ I am aware of where my food comes from.
- ❖ I play an important role in my local food system.
- ❖ I know who grows my food.
- ❖ I can grow my own food.
- ❖ I know where my food is grown.
- ❖ I can find a place to grow my own food.
- ❖ I know where I can buy fresh produce.
- ❖ I am aware that there are differences in costs of certain foods, depending on the food and its source.
- ❖ I have a pretty good understanding of hunger, its causes, and who it impacts.

Intermediate/Advanced:

- ❖ I know the difference between fresh and processed food.
- ❖ I am aware of what influences my eating habits.
- ❖ I can easily change my eating habits.
- ❖ I am aware that where a person lives can determine whether or not they have access to healthy food.
- ❖ I am aware that hunger is an issue in my community.
- ❖ I have the power to help eradicate hunger in my community.
- ❖ I am aware of the opportunities to inspire others and serve as a youth leader in my community.

Reflection Questions (choose a few that work best for your group)

- How easy was it to determine where you fell on the spectrum?
- How vulnerable did you feel if you were not familiar with a topic?
- Did you find yourself looking around to see where you peers placed themselves on the spectrum before deciding where you should place yourself? How do you think that their placement influenced your placement?
- Were there any statements that you found difficult to answer, either because it was difficult to make up your own mind, or because the statement was poorly phrased?
- Are there any statements in which everyone or no one was confident? Why do you think this is? Do you think this is true for most of the population or is our group unique? e.g. Do you think there may be a lack of general information available? Are certain things somewhat hidden from us as consumers, such as where certain foods come from?
- How might we learn more? What can we do as a group to move forward in finding answers?

Acknowledgements

Originally written by: Christine Hadekel and Marcia Eames-Sheavly



3.3 Journeying Through Our Food System

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Identify the steps a common snack food takes from field to fork.
- Recognize that the food system is complex.
- Begin to understand what their role in the food system can be.



Life Skills

Critical thinking, learning to learn, communications, social skills, accepting differences, sharing, contribution to group, marketable/useful skills, teamwork, self-responsibility, character, managing feelings

Time

30-45 mins

Materials

- Surface to write on and writing utensil (e.g. whiteboard, large sheet of paper + tape, etc.)
- Pens or pencils
- [A Snack's Journey](#) handout for each youth
- Simple plant-based snacks appropriate for your group (ex. popcorn, apples, grapes, carrots, bananas, etc.). Creators of this curriculum have found popcorn to be a wonderful choice for this activity.

Space

Any space that allows group work, eating snacks, and writing

Introduction

In this activity, youth will begin to develop awareness about where their food comes from. As human beings, we eat food. We all participate in the food system every day, whether we know it and choose to reflect on it or not. The food system is complex. It affects the environments we live in, our health, the earth's health, the economy, the government, and much more. To begin understanding its effects, we will take a snack's journey through our food system exploring how our food is grown, processed, distributed, accessed, eaten, and disposed of. Developing an awareness and understanding of our food system and its many parts and complexities is one thing we can do to empower ourselves to create change and make informed decisions about the food we eat.

As mentioned above, the food system is complex. Furthermore, as the facilitator, it is important to recognize the food system does not function the same for all people. Even for people living in the same city, the food system can manifest itself in different ways. In the past and present, there have been structural barriers to food access and sovereignty. Low-income communities, indigenous communities, and communities of color have been especially impacted by these barriers.



[“Vote with your fork”](#) is a social change strategy promoted by some food movements in this country. This strategy depends on peoples’ food purchasing and eating choices to create change in the food system. This strategy can be effective, and yet we must keep in mind that [this may not be a viable strategy for all members of our society](#). There are complex social and economic factors sometimes preventing low-income communities, indigenous communities, and communities of color from accessing healthy,

affordable, and culturally appropriate food. Supermarket access, food prices, education, and employment are just a few of these factors. The relationship between food and cultural identity is significant. It is important to keep this in mind when facilitating. These are themes we will continue to discuss throughout the curriculum.

We encourage the facilitator have open and honest dialogue about the food system and empower youth to create their own opinions of the food system. Given the challenges of understanding something so widely varying and complex, as the facilitator, you may find yourself saying “I don’t know.” This is an opportunity for young people to experience the “not knowing” and we encourage you to collaborate to find answers to your questions.

Vocabulary

System: a set of interdependent parts forming a complex whole; a set of principles or procedures according to which something is done

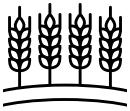
Food system: the journey that food travels from field to fork and beyond, which includes growing, harvesting, processing, packaging, transporting, marketing, consuming, and disposing. It includes the inputs needed and the outputs generated at each step

Food Security: the state of having reliable access to a sufficient quantity of safe, affordable, and nutritious food

Food Justice: a person’s right to affordable, nutritious, fresh, and culturally appropriate food regardless of race, class, gender, ethnicity, citizenship, ability, religion, or community

Food Sovereignty: the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems (term coined by [International Peasants' movement La Via Campesina](#) and defined in the [2007 Declaration of Nyéléni](#))

Parts of the food system:



Growing: All steps involved in producing the raw food. Steps could include farming, foraging, fishing, gardening, planting seeds, applying fertilizers, watering crops, harvesting, storage, and more.

Processing: All steps needed to prepare food for distribution and eating. Steps could include packaging, chopping, canning, preservation, adding spices, enriching with nutrients, cooking, slaughter, deboning, and more.



Distributing: All steps and materials involved in transporting food to places of access and eating. Steps and materials could include wholesaling, warehousing, transportation, trains, trucks, ships, cars, and more.

Accessing: This is how we obtain our food through various societal constructs including retail (ex. farmers market, supermarket, box stores), institutional food service (ex. schools, hospitals, jails, places of worship), emergency food programs (ex. food pantries), family gatherings, and more. Marketing can be an important component of access.



Eating: All steps needed to consume food. This could include cooking, preparing, purchasing, celebrations, rituals, and more.

Disposing: This is what happens to food scraps and packaging after eating. Disposal could include composting, sending waste to the landfill, renewable energy, animal feed, and more.



Before the Activity

- Write the following questions on the board or a large sheet of paper hung up where everyone can see it.
 - What is a system?
 - What is a food system?
- Prepare snacks.

Activity

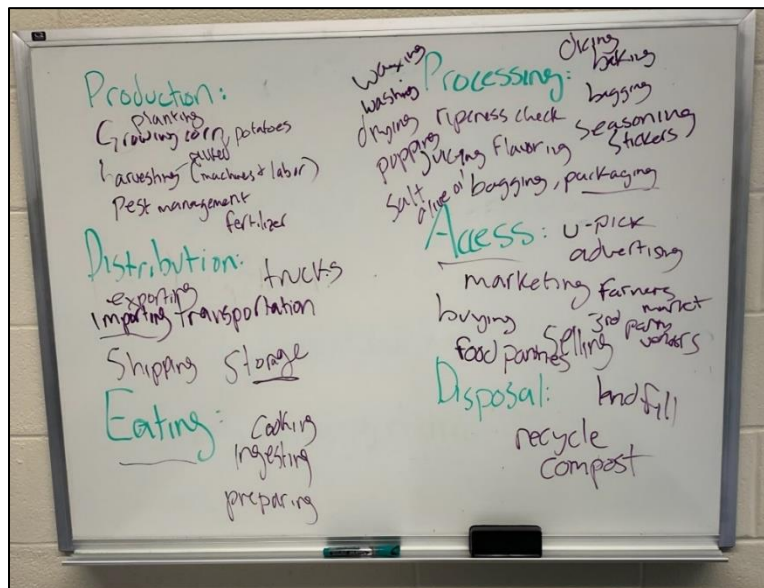
Opening Questions

Have the youth break off into groups of two to three people to answer the following questions:

- What is a system?
- What is a food system?

Experience

1. Come back together to discuss answers and using the answer the key as a guide, develop a definition for “food system.” Write this definition on the board.
2. Ask the youth to split into groups of three or four; give each group a snack, writing utensils and *A Snack’s Journey* handout. Provide instructions:
 - Inform the youth that they may eat their snacks.
 - Share that each group will write their snack’s journey through the food system by identifying the possible activities involved in each listed part of the food system. Depending on skill level, make sure participants understand what each part of the system means. For each part, have youth think about who is involved, what the inputs are, and if there is any waste.
 - While groups are meeting, write the six parts of the food system (growing, processing, distributing, accessing, eating, disposing) on a board or a large sheet of paper hung up where everyone can see it.
3. Gather back together as a whole group. For each section of the food system, ask the youth what their snack was and the activities they wrote down. Add and discuss any activities that they have not mentioned.



Example discussion board for *A Snack’s Journey*.

Reflection Questions (choose a few that work best for your group)

- How did it feel to do that activity? How did it feel to work in groups?
- Do you have any thoughts or feelings that you did not expect?
- Where do you see yourself in the food system?
- Do you know anyone whose job is involved in the food system? (e.g. farmer, truck driver, grocery store worker, etc.)
- In what other systems do you participate?
- If you had to teach someone about the parts of the food system, how would you do it? Where would you start?

Variations

- Instead of writing on the worksheet, groups could draw out each step. For beginners, the facilitator could create a matching game for youth to match each step with its part in the food system.

Extensions

- Take a field trip to a farm, processing plant, or landfill.
- Invite a politician, university researcher, farmer, processing plant worker or anyone else involved in the food system in as a guest speaker, letting them know in advance tips on how to make their presentation age appropriate for youth.



Learn More

- [Agriculture and Food Systems](#) New York State 4-H
- [Food Justice](#) FoodPrint
- [Reform or Transformation? The Pivotal Role of Food Justice in the U.S. Food Movement](#) Race/Ethnicity: Multidisciplinary Global Contexts
- [The New Face of Hunger](#) National Geographic
- [The Pleasures of Eating](#) by Wendell Berry

Curricula and lesson plans

- [Discovering Our Food System](#) Cornell Garden-Based Learning
- [Food for the SOL](#) Seeds of Solidarity Education Center
- [Food Systems Feed the World](#) National Agriculture in the Classroom
- [Food Systems Thinker](#) by Mingla Charoenmuang, Purdue University
- [FoodSpan](#) John Hopkins Center for a Livable Future
- [The Food Project](#)

Videos

- [Follow that Food - Carrot Edition](#) Minnesota Department of Agriculture
- [Future of Food - Feeding the World in a Sustainable Way | Chiara Cecchini | TEDxKlagenfurt](#)
- [Prickly Pineapples: From Farm to Fork](#) Tesco Eat Happy Project
- [Food Systems Approach by WUR explained in 1 minute](#) Wageningen University & Research
- [Voices of the Food Chain](#) by Food Chain Workers Alliance, Real Food Media

Acknowledgements

Components of this activity taken from activities in [Discovering Our Food System](#) (“A Meal’s Origins” and [Youth Grow](#) (“Defining a Food System”).

A Snack's Journey

Write or draw your snack's journey through the food system by identifying the possible activities involved in each part of the system. For example, peeling a banana would be a part of eating while cutting it from its stalk would be part of the growing stage. For each stage, think about who is involved, what the inputs are, and if there is any waste.

Snack: _____

Growing

Processing

Distributing

Accessing

Eating

Disposing



3.4 Food System Influences

Skill Level

Intermediate, Advanced

Learner Outcomes

- Understand the inputs and outputs of our food system.
- Evaluate different influences on our food system and impacts of our food.
- Explore connections between different political, environmental, social, and health factors of our food system.



Photo by Markus Spiske on Unsplash

Life Skills

Critical thinking, learning to learn, communications, social skills, accepting differences, sharing, contribution to group, marketable/useful skills, teamwork, self-responsibility, character, managing feelings

Time

This activity can take place over multiple sessions. Timing can vary for each part. We suggest 20 minutes for food system videos, 20 minutes for food system inputs and outputs, and 20 minutes for Food System connections.

Materials

- “Name that In/Output!” description statements
- Food System Factor Cards
- Ball of yarn

Space

Any space allowing youth to have discussion and gather in a circle

Introduction

This activity begins to take a deeper look into the complexities of our food system. It is appropriate for groups who already have familiarity with food systems. There are inputs needed to drive the food system such as labor, materials, energy, water, chemicals, and capital. There are outputs coming out of our food system beyond food and food products, such as waste and air emissions. Many people agree that our current food system is not sustainable in how it currently functions. Research shows many participants in the food system are struggling. This introduction takes an enormously complex subject and attempts to break it down into a few pieces. As such, it may be most appropriate for older youth. As a facilitator, you can determine its appropriateness.

The influences of our current food system stretch beyond impacting what is on our plate. Each of its parts—growing, processing, distributing, accessing, eating, and disposing—is affected by and affects our environments, communities, and economies. Below is a streamlined introduction to these complexities. We encourage facilitators to reflect upon how this makes you feel, since this activity is an opportunity for you to model authenticity for the young people with whom you work.

Shaping the prices, safety, labeling, and advertising of food are a few of the ways in which government and businesses influence our food system. There are policies that affect food at each level of government—federal, state, and local. Some of the ways that government can influence our food system include laws, regulations, subsidies, taxes, and crop insurance programs. Government can encourage farmers to grow certain crops or manage their crops in certain ways. Through regulating food labels and advertising, government shapes the information people receive about their food. An example of this is labeling calories on fast food menus. In addition, the federal government releases national Dietary Guidelines every five years which serve as the foundation for federal food, nutrition, and health programs such as the National School Lunch Program and Supplemental Nutrition Assistance Program (SNAP, formerly known as food stamps).



Culture and society influence the food we eat, and the food system influences culture and society. The food we eat, and how we access and prepare it is connected who we are. Many social gatherings center around eating food together. Our diet and our health our intimately connected.

Each part of our food system feels the impact of climate change and also contributes to it. The changing rainfall patterns are causing more severe weather events, such as floods and droughts, across the world. Floods increase soil erosion, pollute water, and damage community infrastructure. Droughts are depleting our water supply and can contribute to wildfires. Changing temperature patterns have led to warmer temperatures and more extreme heat, which can cause challenging working conditions and affect what plants can be grown in particular areas. Changes in climate can also lead to new pest problems. **All these factors can lead to crop loss, meaning less overall food production.**

Contributing to climate change, each part of our food system requires energy and water to function. Typically, we rely on equipment and machines powered by fossil fuels. Food can travel thousands of miles before it gets to your plate. Burning fossil fuels releases carbon and other greenhouse gases into the atmosphere, contributing to climate change. Water has many uses in the food system; it is used to grow our food, clean our food, cool down our processing equipment, mist our produce in the grocery store, hydrate people working in the food system, cook our food, and clean



recyclables in waste recovery centers. Neglectful water management can lead to depletion and pollution of water sources.

Taking a closer look at the large-scale conventional farming practices we use to grow our food, we see that they have damaged our soils and oftentimes, eliminated biodiversity in the agroecosystem. Leaving fields and their soil bare in the off season and regular, heavy tillage reduces the amount of nutrients in soil and degrades soil structure. This can lessen the ability of soil to hold water and make it more susceptible to erosion. To compensate for degraded soils, farmers apply fertilizers to add nutrients back to the soil. Producing and transporting fertilizers requires energy, and field run-off can result in fertilizers ending up in unwanted places such as our water supply. Typically, large scale conventional farmers grow one food crop in a field at a specific time, this is called a “monoculture.” This lack of diversity makes food crops vulnerable to pests and climate conditions.

In addition to the above effects, it is estimated that 30-40% of the food produced in the United States is wasted. Food waste has numerous causes including overproduction, spoilage, culling of blemished produce, and buying more than we need. Food waste is an unnecessary waste of money and resources, and that food could go to feeding the millions of people in the United States and around the world who are food insecure.

Above are just a handful of examples of how our current food system is impacted by and contributing to climate change. The good news is that for as much as it contributes, our food system can also play a large role in mitigation and adaptation to climate change. Our food system has not always been this way. We can reduce greenhouse gas emissions and make communities and farms more resilient to climate change. Climate smart farming practices are becoming more and more common. These include things such as crop rotation, no-till farming, planting cover crops, and intercropping build healthy soils and counter the need for fertilizers. Building back healthy soils health increases their ability to draw down carbon from the atmosphere and store it. By choosing to consume and promote sourcing of local food, we can reduce transportation impacts. We can waste less food through prevention, rescue, and recycling strategies. More and more programs are also beginning to look at climate suffering and adaptation, reflecting on the psychological consequences on human health.



*Intercropping field example- corn and beans alternating rows.
Howard F. Schwartz, Colorado State University, Bugwood.org*

These impacts and influences of the food system affect people differently. Harmful effects of the food system traditionally have been felt the hardest by low-income communities, indigenous communities, and communities of color.

This activity is meant to start discussion about the various inputs and outputs, influences and impacts of our food system and we invite you, as a facilitator, to consider what is most appropriate for your group, holding the tension between the harder realities of present-day issues and the readiness of your group members to discuss them. The following videos can provide framing to help facilitators and young people think about the bigger picture of the food system. We encourage facilitators to watch the videos first and determine which would be a good fit for your group.

- [Follow that Food- Carrot Edition](#) Minnesota Department of Agriculture
- [Food Systems Approach by WUR explained in 1 minute](#) Wageningen University & Research
- [Home Flavored](#) Real Food Media
- [Why do we need to change our food system?](#) UN Environment Programme

Vocabulary

Input: materials and resources that enter a system to make it function

Output: the products and byproducts that come out of a system

Climate: average weather in a specific region over a period of time

Before the Activity

- Determine which food system videos are a good fit for your group.
- Cut out Food System Factor cards.
- Assess where your group is at with their knowledge of food systems. It can be helpful to review the parts of the food system discussed in [3.3 Journeying Through Our Food System](#) before this activity.



Activity

Opening Questions (Choose questions suitable for the group, if appropriate pose the question to set the tone and do not seek an answer)

- What influences our food system?
- What impact does our food system have on our world?
- How could our food system impact our climate?
- How could climate influence our food system?
- How could our food system impact our health?

Experience

- 1) As a group, watch one or a few of the following videos to investigate food system impacts on environment, community, and economy:
 - [Follow that Food- Carrot Edition](#) Minnesota Department of Agriculture
 - [Food Systems Approach by WUR explained in 1 minute](#) Wageningen University & Research
 - [Home Flavored](#) Real Food Media
 - [Why do we need to change our food system?](#) UN Environment Programme
- 2) After watching the videos make space for youth to process. Ask them to share a word to describe how they are feeling.
- 3) Share with the group how the food system is complex. There are many influences acting on the food system as well as many impacts resulting from the food system. To begin thinking about these influences and impacts, let's think about what needs to be put into the food system to make it function (inputs) and what products and byproducts come out of it (outputs). On a board or poster paper, make a T-chart with the headings "inputs" and "outputs." Have youth brainstorm a list of inputs (materials and resources) that go into the food system and outputs (products and byproducts) that come out of the food system.
- 4) Explore these food system inputs and outputs further with the group by playing "Name that In/Output!" See handout at bottom of this activity for directions and descriptions. In this game, the leader (can be facilitator or a group member) reads a description of a food system input or output and then the rest of the group responds with the name of the input or output. The group is given a list of options to choose from. It can be helpful to print this list out for each participant or have it displayed for all to see. You can have one person read all the descriptions to the group or pass out a description so each person in the group can read one.
 - For example, the leader says "Name that input! ***This input*** is used for irrigation, pesticide and fertilizer application, crop cooling and frost control in growing food. The group responds with the correct answer 'Water.'
- 5) After playing "Name that In/Output!" ask the group how these inputs and outputs could affect our food system, environment, communities, and economies.
- 6) Pass out a [Food System Factor](#) card to each youth, inviting them to think about how this factor impacts or is impacted by our food system.
- 7) Create a web of connections. Have youth gather in a circle and display their card to the group. Pass a ball of yarn to someone in the group, have that person share their card and thoughts. After sharing, the person will hold onto the yarn and toss the ball of yarn to someone else in the group who has a factor they feel connects to their factor. For example, "Chemicals- Fertilizers and Pesticides" is connected to "Energy" as it takes energy to create these chemicals and apply them to crops.

Another example, “Research and Technology” is connected to “Plant Health” as research and technology can develop tools to keep plants healthy. Keep in mind that each factor can connect to multiple other factors!

Reflection Questions (choose one or a few that work best for your group)

- Do you have any questions? If so, what are they?
- What have you discovered that surprised you?
- How has your perspective of the food system changed after this activity?

Extensions

- Take a field trip to a place in the food system. This could be a farm, processing plant, farmer’s market, waste facility, etc.
- Invite a guest speaker who plays a role in the food system into a group meeting. This could be a farm worker, politician, university researcher, etc.
- To explore the connection between gardening and climate change further, check out the Cornell Garden-Based Learning curriculum [Gardening in Our Warming World: Youth Grow!](#)
- If young people feel overwhelmed with the challenges of our food system, please spend a generous 20 minutes encouraging them to name all the goodness that they possibly can – such as the caregivers and kind people who serve food in homes and various institutions; the passionate farmers who year after year and despite weather challenges, are dedicated to growing food; activists who hope for a positive future who show up repeatedly; teachers and other educators who are dedicated to learning; and so on. You may even want to point out the brain’s negativity bias, that is, a bias toward noticing and remembering what’s wrong, and point out the importance of remembering the good, and what is possible.



Learn More

- [Agriculture and Climate](#) Environmental Protection Agency
- [Climate Change Affects U.S. Agriculture and Rural Communities](#) U.S. Department of Agriculture
- [Climate Change and Agriculture: A Perfect Storm in Farm Country](#) Union of Concerned Scientists
- [Climate change: How do we know?](#) NASA
- [Climate Smart Farming](#) Cornell University
- [Food and Farm Solutions](#) Union of Concerned Scientists
- [Food Insecurity in New York](#) Feeding America
- [Food First Backgrounder on Racism in the Food System](#)
- [Food Policy 101](#) Foodprint.org
- [Food Waste FAQs](#) U.S. Department of Agriculture
- [NYS 4-H Agriculture and Food Systems](#)
- [The New Face of Hunger](#) National Geographic

- [Understanding Food and Climate Change: An Interactive Guide](#) Center for Ecoliteracy

Curricula and lesson plans

- [Discovering Our Food System](#) Cornell Garden-Based Learning
- [Food for the SOL](#) Seeds of Solidarity Education Center
- [Food Systems Thinker](#) by Mingla Charoenmuang, Purdue University
- [FoodSpan](#) John Hopkins Center for a Livable Future
- [The Food Project](#)
- [Climate Change Phenomena: Bananas in Our Breadbasket?](#) National Agriculture in the Classroom

Videos

- [Climate crisis solutions - Food and Agriculture](#) UN Environment Programme
- [Decolonizing Our Food System](#) (2020) The Doctor's Pharmacy with Leah Penniman
- [Future of Food - Feeding the World in a Sustainable Way | Chiara Cecchini | TEDxKlagenfurt](#) (2019)
- [How we can eat our landscapes Pam Warhurst TEDSalon](#) (2012)
- [Why do we waste perfectly good food in the U.S.? | AJ+](#) (2018)

Acknowledgements

The “Name that In/Output!” game in this activity has been adapted from [Food Systems Thinker- Lesson 2.3. Impact of Food Systems](#) by Mingla Charoenmuang.



Group game: Name that In/Output!

Directions: In this game, have someone (can be facilitator or a group member) read a description of a food system input or output and then have the rest of the group respond with the name of the input or output. The group is given a list of options to choose from. It can be helpful to print this list out for each participant or have it displayed for all to see.

- For example, the leader says “Name that input! ***This input*** is used for irrigation, pesticide and fertilizer application, crop cooling and frost control in growing food. The group responds with the correct answer, ‘Water.’

Inputs	Chemicals	Energy	Equipment	Feed	Materials	Transport	Water
Outputs	Air emissions	Food	Solid Waste	Wastewater			

Descriptions:

1. ***This input*** is used for irrigation, pesticide and fertilizer application, crop cooling and frost control in growing food. (Water)
2. ***This input*** is food grown or developed for livestock and poultry. (Feed)
3. In distribution, a forklift is an example of ***this input*** used to lift and move materials over short distances. (Equipment)
4. ***This input*** is used in food packaging include glass, metals, paper, and plastics. (Material)
5. Retailers need to use a lot of ***this input*** to keep a constant temperature in the refrigeration displays and units. (Energy)
6. Food industry adds ***this input*** as food preservatives to fight spoilage caused by bacteria, molds, fungus, and yeast. (Chemicals)
7. Foods move to market by means of ***this input*** of air, water, and land. (Transport)
8. ***This output*** is garbage, refuse, and sludge from a wastewater treatment plant at the factories. (Solid waste)
9. ***This output*** is gases and particles which are put into the air by pesticide sprayers, food processing machinery, and trucks. (Air emissions)
10. ***This output*** is water affected by human use such as runoff, chilling, washing, and flushing toilet. (Wastewater)

This activity has been adapted from Charoenmuang, M. (2018). Food Systems Thinker-Lesson 2.3. Impact of Food Systems <https://tinyurl.com/4oa8kozp>.

Food System Factor Cards

Farm Worker	Taxes and Subsidies
Culture	Soil
Chemicals - Pesticides, Fertilizers	Genetic Material
Climate	Education
Water	Equipment
Animal Health	Corporations and Businesses
Plant Health	Research and Technology
Nutrition	Energy
Government	Biodiversity
Food Service Worker	Community Member



3.5 What is Justice?

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Explore what the word justice brings to mind.
- Develop a collective understanding of what the term justice means.

Life Skills

Learning to learn, decision making, critical thinking, planning/organizing, communications, social skills, accepting differences, concern for others, empathy, sharing, contribution to group, teamwork

Time

5-10 minutes

Materials

- Writing utensils
- Sticky notes

Space

Comfortable place for youth to move around and whole group discussion. Wall or table available to place sticky notes.

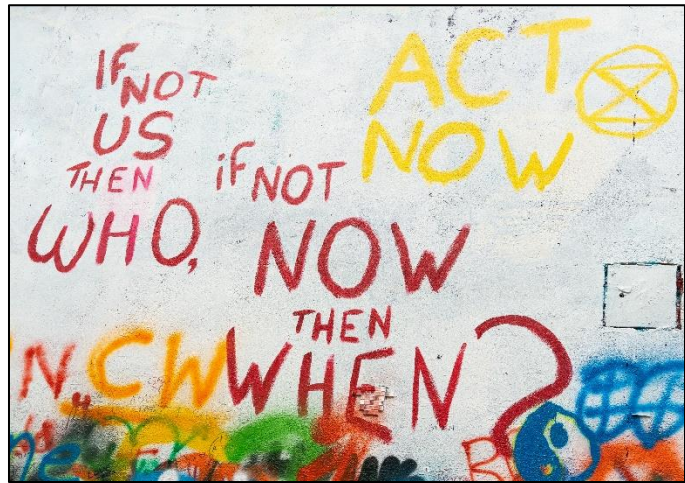


Photo by Rod Long on Unsplash

Introduction

This activity will help ground the group in thinking about what the word justice means. We hear this word often in various situations, and yet, may not have paused to consider its meaning. It can also be helpful to think of the word in the context of its opposite: “injustice.” Injustice can be considered the lack of justice, violation of rights, unfair action, or treatment. Though creating a word cloud and group definition, we hope to have the group develop basic understanding of what justice is and what our basic human rights are.

Before the Activity

- Read through provided perspectives on justice and human rights and determine which could be appropriate to share with your group.
- Determine location where sticky notes will be posted for everyone in group to see.

Activity

Opening Questions (Choose questions suitable for the group, if appropriate pose the question to set the tone and do not seek an answer)

- Where have you heard or seen the word “justice” before?
- What types of justice movements, campaigns, and groups can you think of? What do these movements have in common? When have people heard about these movements? Under what circumstances?

Experience

1. Create a word cloud with the group using sticky notes. Traditionally, a word cloud is an infographic with a jumble of words. The more a word is shared, the bigger and bolder it appears. In this exercise, we will use sticky notes to capture everyone’s words. Pass out 5-10 sticky notes to each person in the group.
2. Ask the group what words come to mind when you hear the word “justice”? Have youth write down words or phrases that come to mind on each sticky note.
3. After writing down their words, youth post their sticky notes on a designated location (could be a wall, board, or table).
4. When all the sticky notes are put up, take a minute to cluster sticky notes that have the same word or phrase on them.
5. Have the group look at the sticky notes. Share that justice is a word that can be interpreted in many ways. When exploring the food system, we will also reflect on “food justice.” The goal of this activity is to come up with a working definition of “justice” for our group. As a group, define what justice is.
 - Below are a few perspectives on justice and human rights that can be shared with your group to stimulate creating a group definition:
 - Martin Luther King, Jr. said “power without love is reckless and abusive, and love without power is sentimental and anemic. Power at its best is love implementing the demands of justice, and justice at its best is power correcting everything that stands against love.”
 - Rhonda Magee, law professor and internationally recognized author, defines justice as “love in action for the alleviation of suffering.”
 - Dolores Huerta, Labor Leader and Civil Rights Activist, said “the great social justice changes in our country have happened when people came together, organized, and took direct action. It is this right that sustains and nurtures our democracy today.”
 - The [United Nations states that](#): Human rights are rights we have simply because we exist as human beings - they are not granted by any state. These universal rights are **inherent** to us all, regardless

of nationality, sex, national or ethnic origin, color, religion, language, or any other status. They range from the most fundamental - the right to life - to those that make life worth living, such as the rights to food, education, work, health, and liberty.

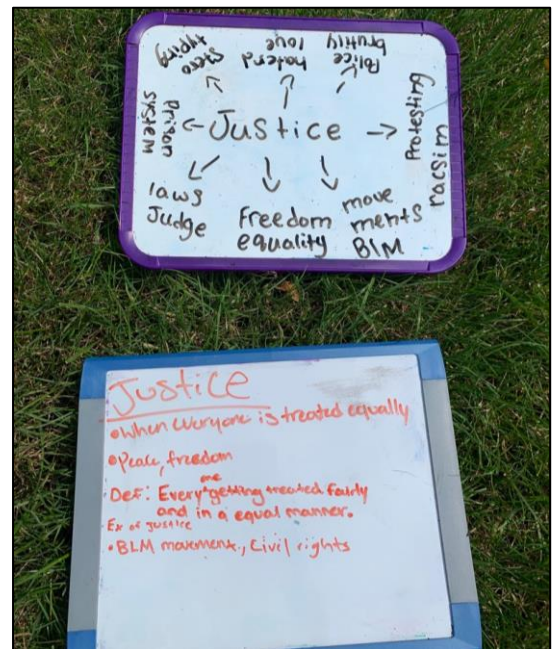
6. Ask group: What does this have to do with a food exploration, anyway? Why might a shared understanding of “justice” matter?

Reflection Questions

- Share a word to describe how you are feeling right now.
- Share with the group that this topic can sometimes bring up strong feelings—including the sense that there is so much to do to ensure justice for all. This is a common feeling. It is important to remember that you do not have to do it all. In fact, as we continue, we’ll be focusing on how to use our talents and strengths to make a difference.

Variations

- Divide into smaller groups to discuss what justice is, and different justice movements, campaigns, and groups you are a part of or can think of. Come back to the larger group to share what you have discussed. Group discussion can be captured on a piece of paper or white board.
- If doing program virtually, word clouds can be created using [Mentimeter](#) or [Word Art](#).



Example white boards from small group justice discussions.

Learn More

- [Dolores Huerta](#) Dolores Huerta Foundation
- [Food for the SOL: A Food, Justice and Community Building Curriculum for Youth](#)
- [Guidelines for Discussing Challenging Issues with Youth](#) Learning to Give
- [Sustainable Development Goals](#) United Nations
- [The Inner Work of Racial Justice](#) by Rhonda V. Magee
- [Universal Declaration of Human Rights](#) United Nations
- [What are human rights?](#) United Nations Human Rights
- [Where do we go from here?](#) Martin Luther King, Jr.



3.6 Let's Talk About Food Justice

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Develop a collective understanding of commonly used food justice terms.
- Reflect upon how the food system affects people.

Life Skills

Decision-making, critical thinking, communications, cooperation, social skills, sharing, contribution to group, teamwork

Time

15-20 minutes

Materials

- Food justice definition cards

Space

Can be done in any space that allows group to move around and interact with each other

Introduction

This activity will get the group up and moving as they define important terms related to food justice. Language matters. Word choice can articulate tough issues and inspire solutions. The struggle for all people to have access to healthy, affordable, and culturally appropriate food is complex. Earlier in this curriculum, we introduce the food system and its interactive parts. This activity takes a deeper look at how the food system affects people. People make the system function.

It can be helpful to review the parts of the food system and concepts related to the food system (See activities [3.3 Journeying Through Our Food System](#) and [3.4 Food System Influences](#)) before diving into this activity. Having youth ponder where they see themselves in the food system and how the food system affect people can be great way to start the discussion.

Most of us are familiar with the term food desert, an area in which it is difficult to buy affordable, fresh, and nutritious food. In many food deserts, it is easier to buy “junk” or convenience food. Our diet affects our health; the food system and public health are connected. These conditions of poor food access leads to food insecurity, chronic diet-related illnesses, and obesity. The USDA uses income level and supermarket presence to measure access to healthy food in specific geographic areas.

There are many other factors that can impact food access such as food prices, education, and employment. Food deserts are typically found in urban or rural areas and

disproportionately affect black, brown, and indigenous people, people of color, and poor white people. Within the last few years, other terms have come in to relabel food desert areas such as “food swamps” and “food mirages.” None of these terms seem to get at the root causes of the issue and food justice leaders are teaching us to move away from them altogether.

It is interesting to reflect on how these terms are not used by people living in these communities. These terms have been inflicted on these communities by people who do not live in them, that is, it is a way of describing people from others who are “looking in.” [According to farmer and food justice activist Karen Washington](#), *food desert* is an “outsider term.” Using the term does a disservice to the communities it aims to describe and the natural environment. Hearing the word “desert” makes us think of a vacant and barren place, desolate of food. Yet, these communities have food and “so much life and vibrancy and potential. Using that word [desert] runs the risk of preventing us from seeing all of those things,” Washington explains.

Malik Yakini, Executive Director of Detroit Black Community Food Security Network, [shares additional reasons the term “food desert” is problematic](#). Deserts themselves are vibrant natural ecosystems providing nourishment for their inhabitants when functioning properly. Using these natural terms imply that food deserts are naturally occurring. These terms are misleading and do not take into consideration these areas have been created by historically racist and classist public policies and economic practices.

Food justice leaders encourage using the term “food apartheid” instead to describe these areas to include why these conditions exist. On [Washington’s website](#), she shares that she “coined the term ‘food apartheid’ to ask us to look at the root causes of inequity in our food system on the basis of race, class, and geography.”

Discussing food injustices and inequities can be uncomfortable. Just as important as it is to set the stage, it is important to share successes and the incredible work people are doing to champion equitable access to healthy food.

The formation of food policy councils (FPCs) has been a successful tool used to create change in communities around the country. FPCs bring together a group of stakeholders representing different parts of the local food system, which can include community members, non-profit organizations, government, food workers, farmers, and businesses. These groups work together to evaluate and implement change to improve their local food system. This can look like policy change, community education programs, coordinating resources, and much more!



FPCs are changing their local food systems by focusing on many areas including food security, access, production, recovery, economic development, and environmental

protection. According to the Johns Hopkins Center for a Livable Future's Food Policy Network (FPN) project, there are over 300 active FPCs in North America. Check out this [FPN directory](#) to see if you have one in your area.

The FPN project has created "[Wheel of Achievements](#)" to share some FPC successes. In 2018, the Faribault, Martin, & Watonwan Counties Community Food Partnerships in Minnesota coordinated meetings between community members and a transportation company, resulting in creating new routes to grocery stores. In 2019, the White Earth Food Sovereignty Initiative in the White Earth Nation created tribal policy to protect traditional food processing methods and cultural foods. In 2019, the Salt Lake City Food Policy Task Force in Utah started a community curbside composting program.



There are many incredible organizations working for justice throughout our food system. Self-described Afro-Indigenous centered community farm based in Petersburg, NY, [Soul Fire Farm](#), is “uprooting racism and seeding sovereignty in the food system” through extensive food and farm education centering communities of color.

[BK Rot](#), a “community-supported, bike-powered, fossil fuel free food waste hauling and composting service” based in New York City, is employing young people of color to move and convert organic waste into compost.

[Grassroots Gardens of Western New York](#) stewards an urban land trust and uses a network of community and school gardens for community empowerment.

The [Massachusetts Avenue Project](#) (MAP), urban farm and community nonprofit organization based in Buffalo, NY, empowers young people with employment opportunities as well as farm, nutrition, food policy, and civic engagement education. MAP runs a mobile market offering local and affordable produce throughout the Buffalo area.

Providing farmland, farm and business education, market access, youth employment, and technical resources for refugees and underserved populations, [Providence Farm Collective](#), champions “farmer-led and community-rooted agriculture and food systems” in Western New York.

A farm-based seed company based in Philadelphia, [Truelove Seeds](#), uplifts small-scale farmers through collaboration to share their “seeds and stories to bring extra financial support for their food sovereignty and agroecological projects.”

National multi-sector, multi-racial coalition of 55 organizations, [HEAL Food Alliance](#), established a thorough and inclusive policy platform for food system change.

These are a handful of incredible organizations fighting for food justice. We encourage facilitators to look into their own communities to connect with groups doing this work.



Vocabulary

Carbon Footprint: A representation of the effect human activities have on the climate in terms of the total amount of greenhouse gases produced.

Certified Organic: USDA labeling term that indicates that a food has been produced through approved methods. Typically, a food with this label is grown without the use of synthetic fertilizers, synthetic pesticides, synthetic growth regulators, or synthetic livestock feed additives.

Community Garden: A plot of land that is gardened by a group of people to produce fruits, vegetables, flowers, and sometimes chickens for egg production. Community gardens exist in both urban and rural communities in a variety of setting — vacant lots, schools or community centers, or donated land. Food may be grown communally, or individuals or families may have individual garden plots or beds.

Community Supported Agriculture (CSA): A mutually supportive relationship between the farmer and community member. The community member pays for a crop "share" in advance, guaranteeing the farmer a market for their goods. In return, farmers supply fresh produce to shareholders on a regular basis throughout the growing season. This relationship ensures the farmer has an income even in the event of crop failure.

Fair Trade: An organized social movement and market-based approach that aims to help producers get better trading conditions and promote sustainability. The movement advocates the payment of a higher price to producers as well as higher social and environmental standards.

Farmers' Market: A common facility or area where several farmers or growers gather on a regular, recurring basis to sell a variety of fresh fruits and vegetables and other locally-grown farm products directly to consumers.

Food Apartheid: The unequal access to healthy and culturally appropriate food caused by historical and present day discriminatory social, political, and economic systems. This leads to geographic areas in which it is easier to buy “junk” or convenience food and more difficult to buy affordable, fresh, and nutritious food (term coined by farmer and food justice activist Karen Washington).

Food Justice: A person’s right to affordable, nutritious, fresh, and culturally appropriate food regardless of race, class, gender, ethnicity, citizenship, ability, religion, or community.

Food Policy Council: A group of stakeholders representing all parts of the local food system, including community members, non-profits, government, food workers, farmers, and businesses, working together to improve their local food system. This can look like policy change, community education programs, coordinating resources, and much more!

Food Security: The state of having reliable access to a sufficient quantity of safe, affordable, and nutritious food.

Food Sovereignty: The right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems (term coined by [International Peasants’ movement La Via Campesina](#) and defined in the [2007 Declaration of Nyéléni](#)).

Food Waste: Food that is discarded, lost, or uneaten. Causes are numerous and occur in all parts of the food system. In the United States, 30-40% of the food supply is wasted.

Free Range: Free-range, free-roaming, and pastured imply that a product comes from an animal that was raised unconfined and free to roam. “Free-range” claims on beef and eggs are unregulated, but USDA requires that poultry have access to the outdoors for an undetermined period each day.

GMO (Genetically Modified Organisms): Plants and animals that have been genetically engineered to exhibit traits that they would not normally have, like longer shelf-life, resistance to herbicides, pests and/or diseases, or tolerance to adverse conditions such as drought or salinity. Genetic engineering is a technique that copies a genetic trait from the genome of one organism and inserts into the genome of another.

Local Food: Food and other agricultural products that are produced, processed, and sold within a certain region, whether defined by distance, state border, or regional boundaries. The term is unregulated at the national level, meaning that each individual markets can define and regulate the term based on their mission and circumstances.



Before the Activity

Cut out terms and definition slips. Read over the terms provided and assess which are appropriate for your group. Add in other terms that you want to include.

Activity

Opening Questions

- What does the phrase *food justice* bring to mind?
- Where do you see yourself in the food system? Please offer an example.
- How does the food system affect people?

Experience

1. Every person in the group gets a sheet of paper which either has a term or definition on it.
2. Instruct group to find their partner by matching the food justice term to its definition.
3. Once each person has found their partner, each pair shares their term/definition with the rest of the group. After each pair shares, pause and see if the group has questions.

Reflection Questions (choose a few that work best for your group)

- Draw a picture of what food justice looks like to you.
- Are any of these terms new to you? Where have you heard these terms before?
- Which terms are you most curious about?

Variations

- In addition to pairs, this activity can be done in small groups. Each small group receives a few terms and definitions to match together. Then, groups come to back together to share their terms with the larger group.
- In a virtual setting, this activity can be done in breakout groups. Each group can be assigned a few terms and definitions to match together. Then, groups come to back together to share their terms with the larger group. [Google Jamboard](#) has been used successfully by creators of this curriculum as a platform to mix and match definitions virtually.

References

- [Doing Food Policy Councils Right: A Guide to Development and Action](#) (2012) Mark Winne Associates
- [Food Access Research Atlas](#) Economic Research Service of USDA
- [Food Apartheid: Racialized Access to Healthy Affordable Food](#) (2021) National Resources Defense Council
- [Food Apartheid: The Root of the Problem with America's Groceries](#) (2018) The Guardian
- [Food First Backgrounder on Racism in the Food System](#)
- [Food Security, Food Justice, or Food Security?](#) (2010) Food First
- [Malik Yakini on Food Apartheid](#) (2020) Center for Nutrition Studies (video)

Learn More

- [4-H Social Justice Youth Development: A Guide for Youth Development Professionals](#)
- [4 Not So Easy Ways to Dismantle Racism in the Food System](#) by Leah Penniman in Yes! Magazine
- [Hunger and Poverty in America](#) Feeding America
- [Meet the Black Farmers Fighting Food Deserts in New York](#) (2021) VICE News
- [New Food Policy Council Looking to Drain Rochester's 'Food Swamp'](#) (2021) CITY
- [SNAP Helps Millions of African Americans](#) (2018) Center on Budget and Policy Priorities
- [The Seneca Nation Is Building Food Sovereignty, One Bison at a Time](#) (2021) Civil Eats

Videos

- [A guerilla gardener in South Central LA](#) Ron Finley, TED Talk
- [Allegories on race and racism | Camara Jones | TEDxEmory](#)
- [Decolonizing Our Food System](#) The Doctor's Pharmacy with Leah Penniman
- [It's Not Food, It's the Food System | Samina Raja | TEDxUniversityatBuffalo](#)
- [Voices of the Food Chain](#) by Food Chain Workers Alliance, Real Food Media

Organizations

- [A Growing Culture](#)
- [Braiding the Sacred](#)
- [Food Chain Workers Alliance](#)
- [HEAL Food Alliance](#)
- [La Via Campesina International Peasant's Movement](#)
- [National Black Food and Justice Alliance](#)
- [Native American Food Sovereignty Alliance](#)
- [Northeast Farmers of Color Land Trust](#)

Acknowledgements

This activity has been adapted from the activity *Defining a Food System* in [Youth Grow](#).

<p>Carbon Footprint</p>	<p>A representation of the effect human activities have on the climate in terms of the total amount of greenhouse gases produced.</p>
<p>Certified Organic</p>	<p>USDA labeling term that indicates that a food has been produced through approved methods. Typically, a food with this label is grown without the use of synthetic fertilizers, synthetic pesticides, synthetic growth regulators, or synthetic livestock feed additives.</p>
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<p style="text-align: center;">Community Supported Agriculture (CSA)</p>	<p>A mutually supportive relationship between the farmer and community member. The community member pays for a crop "share" in advance, guaranteeing the farmer a market for their goods. In return, farmers supply fresh produce to shareholders on a regular basis throughout the growing season. This relationship ensures the farmer has an income even in the event of crop failure.</p>
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<p style="text-align: center;">Food Policy Council</p>	<p>A group of stakeholders representing all parts of the local food system, including community members, non-profits, government, food workers, farmers, and businesses, working together to improve their local food system. This can look like policy change, community education programs, coordinating resources, and much more!</p>

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<p style="text-align: center;">Free Range</p>	<p>Free-range, free-roaming, and pastured imply that a product comes from an animal that was raised unconfined and free to roam. “Free-range” claims on beef and eggs are unregulated, but USDA requires that poultry have access to the outdoors for an undetermined period each day.</p>
<p style="text-align: center;">GMO (Genetically Modified Organisms)</p>	<p>Plants and animals that have been genetically engineered to exhibit traits that they would not normally have, like longer shelf-life, resistance to herbicides, pests and/or diseases, or tolerance to adverse conditions such as drought or salinity. Genetic engineering is a technique that copies a genetic trait from the genome of one organism and inserts into the genome of another.</p>
<p style="text-align: center;">Local Food</p>	<p>Food and other agricultural products that are produced, processed, and sold within a certain region, whether defined by distance, state border, or regional boundaries. The term is unregulated at the national level, meaning that each individual markets can define and regulate the term based on their mission and circumstances.</p>



3.7 Planting the Garden

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Understand the difference between starting seeds indoors and direct sowing in the garden.
- Gain hands-on experience sowing seeds.

Life Skills

Keeping records, communications, sharing, marketable/useful skills, teamwork, healthy life-style choices, self-responsibility



Time

30-40 minutes depending on garden size

Materials

- Garden design and plan
- Transplants and seeds
- Planting materials and tools:
 - *Outside planting:* soil preparation tools which could include digging fork, hoe, broad fork, shovel, trowels, etc.
 - *Inside planting materials:* containers with drainage holes, tray to place under containers to catch excess water, potting soil mix
 - Plant tags and pencils to label rows or pots once planted
 - Sprayer/watering can

Space

In the garden, a table can be useful to lay out materials

Introduction

Prior to this activity, your group developed a garden plan and design. Now it is time to plant it! Whether the garden is indoors or outdoors, the process for planting seeds and transplants is similar. Key things to remember when planting and to share with your group:

- Different plants require different planting methods. Planting methods include “transplant” and “direct sow.” This type of information can usually be found on the seed packet. When you transplant in an outdoor garden, you are planting

seedlings (young plants) into the ground. When you direct sow in an outdoor garden, you are planting seeds directly into the ground.

- Keep time of year in mind when deciding what to plant. Different plants can be planted outside at different times of the year, depending on whether they prefer cool or warm temperatures. For example, there are plants that can be sown in cool soil in spring and fall (e.g. lettuce and other salad greens, peas, spring onions) and there are those that need warm soil to germinate (e.g. carrots, corn, cucumbers, peppers, summer squash, tomatoes, zucchini). The seed packets usually have this information written on them.
- If you are growing your own transplants from seed, make sure to “harden off” seedlings before planting outside. To do this, slowly over a week or so, expose seedlings to outside environmental conditions—sunlight and temperature fluctuations. Gradually increase the time seedlings are exposed each day.
- Before planting seeds, focus on the seed packet. Different types of plants require different conditions for planting and growing. The seed packet can be considered the “recipe” for what the seed needs to sprout, and what the plant needs to thrive. It is important to sow seeds at the correct depth or they may not sprout. Planting depth information can be found on the seed packet, and a general rule of thumb is to plant a seed at a depth 2x-3x the diameter of the seed’s width.
- When planting seeds and transplants, remember to label them the with plant type and planting date. Labeling helps you remember what is planted in a given location, especially with seeds. It will take a week or two for most seeds to germinate, depending on the type of seed and soil temperature.
- For an indoor garden, plants may need supplemental light to grow well.



Note to facilitators: This activity contains new concepts for some. Remember you do not have to facilitate this all this alone. Guidance from a neighbor with a passion for gardening or a Master Gardener Volunteer with experience working with youth could be helpful and offer new perspective. The [New York Seed to Supper](#) garden guide is a helpful resource available to support Project S.O.W. facilitators.

Vocabulary

Sow: to plant a seed for growth

Germinate: to sprout or begin to grow

Before the Activity

It can be helpful to lay out seed packets, transplants, and planting materials on a table before planting.

Activity

Opening Questions

- Ask the group who has planted seeds or plants before. What do you need to know when planting a seed or transplanting? (This could include how deep to plant, plant spacing, when to plant, sunlight needs, time till germination and harvest, etc.)



Experience

- Review [2.5 How to read a seed packet](#), sowing and transplanting basics, then it is time to get planting!
 - Seed Sowing Basics:
 - Demonstrate how to prepare the soil. Remove any large rocks and break up any large soil clumps. It can be a good idea to pre-moisten the soil, watering afterwards can move the seeds deeper or shallower than you intended.
 - Demonstrate how to sow different size seeds at the appropriate depth. You can show how pea seeds get planted deeper than small seeds like carrots. Lettuce seeds need light to germinate so show how to scatter seeds on top of the soil and press in lightly.
 - Once planted, label where you planted the seeds with the name of the plant and date.
 - Transplanting Basics:
 - Demonstrate how to prepare the soil. Dig a small hole that you will put the transplant in. For most plants, plant them as deep as the roots currently are. The soil surface would be even with the soil surrounding the transplant, do not bury the stem. Tomatoes are an exception to this rule; they can be planted deeper—up to 2/3 of the plant being underground. Tomatoes have the ability to produce additional roots on the buried stem.
 - After removing transplant from container, break up root bound transplants by agitating roots slightly.
 - After a transplant is in the ground, remove air pockets in soil by tamping the soil down. Water the transplants in after planting.
 - Once planted, label transplants with plant name and date.
- Divide the group into smaller groups and get planting!

Reflection Questions (choose a few that work best for your group)

- What did you notice as you were planting seeds? This could include feelings, observations (e.g. what the air smelled like, what the soil felt like), reflections on when they think the seeds will germinate, etc.
- What do you imagine that the plants will look like when they sprout? What will they taste like when we eat them?
- Is there anything about planting seeds that surprised you?

Learn More

- Contact your local Cooperative Extension office for garden and plant related questions: [Cornell Cooperative Extension Offices \(NY State\)](#) and [USDA Land-Grant University Website Directory](#)

General Garden Basics:

- [6 Basic Steps to Start or Plant a Vegetable Garden](#) University of Maryland Extension
- [Food Gardening](#) Cornell Garden-Based Learning
- [Growing Vegetables in Containers](#) University of Maryland Extension
- [Planting the Vegetable Garden](#) University of Minnesota Extension
- [Transplants or Direct Seeding - What's best?](#) Horticulture Section, School of Integrative Plant Science, Cornell University



Reading Seed Packets:

- [Information on Seed Packets](#) Penn State Extension
- [Understanding the Seed Packet](#) University of Nebraska-Lincoln Extension

Supplemental Light for Indoor Growing:

- [Optimizing Plant Growth with Indoor Lighting Q&A](#) University of New Hampshire Extension
- [Tips for Choosing Grow Lights](#) University of Vermont Extension

Acknowledgements

This activity was adapted from the *NYS Seed to Supper* curriculum* and Cornell Garden-Based Learning activities “Starting Seeds Indoors” and “Direct Sowing Seeds Outdoors.”

References: Chapter 3 - Planting Your Garden

** NYS Seed to Supper curriculum was adapted with permission from Seed to Supper joint program of Oregon Food Bank and Oregon State University Extension Service. Any courses based upon these materials, are to be offered equitably and free of charge.*

Voices in Food Justice:

What foods did your ancestors love? by Aparna Pallavi

Video link:

https://www.ted.com/talks/aparna_pallavi_what_foods_did_your_ancestors_love?utm_campaign=tedsread&utm_medium=referral&utm_source=tedcomshare

In this TEDx Talk, [Aparna Pallavi](#), indigenous food researcher and journalist, shares stories on what is influencing the foods showing up on our plates, how food affects us, and how we can begin to reclaim our diets.

Below are some possible discussion questions:

- How did you feel watching the video? With what/whom did you connect; why might this be?
- What shapes your thinking about the food that you eat?
- What does food mean to you?
- Aparna shares ideas on how we can bring love into our connections with our food- slowing down, spending time with an elder listening to their food memories, showing respect and curiosity to others enjoying foods we are unfamiliar with, and more. Which of these ideas stuck out to you? Anything you would add to her ideas?
- What foods did your ancestors love? If unsure, how can you learn more?

Voices in Food Justice:

Green Bronx Machine on Real Food Media

Video link: <https://realfoodmedia.org/video/green-bronx-machine/>

In this film, student gardeners share how their experience cultivating school gardens with teacher Mr. Stephen Ritz and the Green Bronx Machine affected their school and personal lives. [Green Bronx Machine](#) is an organizing in New York City that champions food sovereignty through building “healthy, equitable, and resilient communities through inspired education, local food systems, and 21st Century workforce development.”

This video is a part of Real Food Films, a [Real Food Media](#) program. Real Food Films is an “international competition for short films on food, farming, and sustainability.”

Below are some possible discussion questions:

- How did you feel watching the video? With what/whom did you connect; why might this be?
- What projects are you involved in that excite you?
- Who are the lovable characters in your life?
- What could a garden look like at your school or in your community?
- What do you think the student means when he says “believe what you see” at the end of the video?

Unit Four: Rooting Resilience

Introduction

In **Unit Four: Rooting Resilience**, youth explore how they like to express themselves and what inspires them to take action. Reflecting upon what they have learned about food systems, the group applies this knowledge to their own community and themselves. Centering personal values, youth ponder what manageable and meaningful action they can do to start creating a community of which they want to be a part. The unit ends by planning and having a garden celebration.

Grounding in personal reflection and examples from justice activists, youth consider the different ways we can communicate information and what motivates us to create change. We hope to show youth the importance of understanding our limits and that we do not have to do it all to make a difference. There is not one right way to tackle a challenge, rather there may be ways more suitable to us and our inclinations.

Using imagination empowers young people to challenge notions of what is and what can be. Youth map out their local food system. After visualizing how the food system functions in their community, youth are encouraged to reflect upon what is working and what they would like to see differently. Thinking big picture and also in terms of manageable steps, youth set goals for themselves to take action.

To recognize the hard work they have put into this project, youth will plan and have a garden celebration. The celebration can take many forms, it is important to incorporate youth voice into the planning process. Youth will be actively involved in making decisions and shaping what the celebration will be. Celebrations offer opportunity for personal reflection and to strengthen connections among group members.

We encourage the facilitator to read over the unit and curriculum in its entirety before use, since many activities are complementary. This curriculum may at times lead to uncomfortable conversations. It is important to remember as the facilitator, it is okay to experience discomfort, and it is also okay if you do not have all of the answers; in addition, we may not find the answers. When you start to feel uncomfortable, we invite you to pause, slow down, wonder into the nature of the discomfort, and allow some “room” for it. You may not always need to speak or intervene. In fact, allowing for some space in which to reflect is an important part of engaging with justice.

Target Objectives

- **Reflect** upon how one likes to express themselves and what inspires one to take action.
- **Evaluate** quotes from prominent justice activists.
- **Construct** a map of the community food system.
- **Formulate** a vision for what they want the food system to be.
- **Understand** how to and the joy of using inner beliefs to inform outer actions.
- **Collaborate** with group members to plan and have a garden celebration.



4.1 Step In

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Discover how group members express themselves.
- Explore what communication methods work for you.
- Reflect upon what inspires us.

Life Skills

Critical thinking, communications, social skills, accepting differences, empathy, sharing, nurturing relationships, contribution to group, self-esteem, self-responsibility, managing feelings

Time

10 minutes (or keep it going as long as the group is interested)

Materials

None

Space

A space in which youth can gather in a circle and move around the circle

Introduction

In this activity, the group will gather in a circle and the facilitator will read a series of statements. After each statement, group members can “step in” to the circle and change their spot if the statement applies to them. The statements progress from lower to higher stakes of sharing and can surface some possible discomfort. It is important to pause after each statement is read since participants usually take a moment to see if anybody else is going to step in before deciding whether to step into the circle themselves.

From this activity, we hope youth take away that we all have different ways of expressing ourselves. Finding a way to express ourselves and sharing that expression with others can bring joy, and it can encourage authenticity and connection. In addition, we have different ways of communicating ideas and taking action. There is not a “right” way, except that it may be more suitable to us and our inclinations.

We encourage youth to reflect upon what inspires them and what turns that inspiration into action. We include a large number of statements below knowing that the facilitator will be sensitive to the dynamics of the group and chose the most appropriate statements. It is important not to engage in this as a laundry list to be read, but instead, to choose statements that fit your group.



Photo by Sushil Nash on Unsplash

Before the Activity

- Read through the provided statements and choose up to 15 statements that could be a good fit for the group. Statements are organized into two groups—easier and more difficult—based on vulnerability. We encourage the facilitator to choose a few statements from each group and begin with easier statements to have youth get the hang of the activity and build trust.

Activity

Opening Questions (Choose questions suitable for the group, if appropriate pose the question to set the tone without seeking an answer. It is also appropriate, in the spirit of vulnerability and fostering trust, to share some of your own story—enough to serve as a model, but without making it “all about you.”)

- Have you ever felt as if you were the only person in the world to feel a certain way?
- How do you like to express yourself?

Experience

1. Have the group gather in a circle. Share that you are going to read a series of statements. After each statement, youth should step into the circle if the statement applies to them.
2. After each statement, be sure to pause and give youth enough time to consider if the statement applies to them.
3. As necessary, debrief statements and ask if anyone wants to share why they stepped in or not.

Reflection Questions

- What does it feel like to be the only person who has experienced something?
- What does it feel like to know others have had the same experience as you?
- What inspires us? What turns inspiration into action? What stops inspiration from turning into action?

Variations

- Instead of stepping into the circle, youth can raise their hand to show the statement applies to them.
- Youth can create their own statements.
- The statements can be cut into strips and placed in a hat. Youth can draw statements out of the hat and read them.

Acknowledgements

This activity is inspired by the “Have You Ever” activity in Chappelle, S., Bigman, L., & Hillyer, F. (1998). *Diversity in action: Using adventure activities to explore issues of diversity with middle school and high school age youth*. Hamilton, MA: Project Adventure.

Easier statements:

- Step into the circle if you have cooked a meal for someone.
- Step into the circle if you like to play basketball.
- Step into the circle if you like to eat ice cream.
- Step into the circle if you enjoy reading books for fun.
- Step into the circle if you have milked a cow or watch someone milk a cow.
- Step into the circle if you have driven a tractor.
- Step into the circle if you have made or helped make bread from scratch.
- Step into the circle if you like to swim.
- Step into the circle if you have cried during a movie.
- Step into the circle if you have felt so much joy you have done a happy dance.
- Step into the circle if you have felt comfort when being outside.

More difficult statements:

- Step into the circle if you have ever gone on a walk to clear your head.
- Step into the circle if you have been in a room full of people and felt alone.
- Step into the circle if you have thought about food waste.
- Step into the circle if you have felt overwhelmed by how much you have to do.
- Step into the circle if you have felt tired or numb when listening to the news.
- Step into the circle if you have felt angry when listening to the news.
- Step into the circle if you make art as a way to express yourself.
- Step into the circle if you or someone you know has signed a petition.
- Step into the circle if you have ever kept a journal to write down your thoughts.
- Step into the circle if you like to tell stories.
- Step into the circle if you like to listen to others tell stories.
- Step into the circle if you have been told you can't do something because you are too young.
- Step into the circle if someone has publicly made you feel embarrassed about something you said or did.
- Step into the circle if you have watched someone speak and felt inspired.



4.2 Voices in Justice

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Explore thoughts and expressions of others.
- Interpret meaning of quotes and ideas.
- Provide examples to support opinions and ideas in persuasive ways.

Life Skills

Decision making, critical thinking, communications, social skills, sharing, contribution to group, teamwork, self-responsibility, character, managing feelings

Time

15 minutes

Materials

- Voices in Justice Quotes handout

Space

Indoor or outdoor activity, comfortable place for youth to reflect and group discussion

Introduction

In this activity, the group will learn about and read quotes from leaders in different justice movements. Youth will use critical thinking skills and work in groups to explore thoughts and expressions of others, and make connections to self-awareness, ideas, and actions they take.

Before the Activity

Read through the list of quotes and choose ones that are appropriate for your group. Get to know the people behind the quotes, learn their story. Print out selected quotes.

Activity

Opening Questions (choose one that is appropriate for your group)

- Share the name of an activist or someone that inspires you.
- Is there a famous quote that you like, and how does it make you feel? What does this quote mean to you?

Experience

1. Have each person pick a quote. Give them time to read it over with the option to pick a different one.



Photo by LOGAN WEAVER on Unsplash

2. Once everyone has settled on a quote, split the group into smaller groups of 3-4 people.
3. In groups, have each person read their quote aloud. After a quote is read, allow 30 seconds for reflection. Stress the importance of this time as silence can be uncomfortable and the tendency in groups can be to immediately start talking.
4. Group discussion questions: Did you like the quote? Why or why not? How did the quote make you feel? What do you think the person trying to say?
5. Each group should choose one quote to share with the whole group. This can be their favorite quote, their least favorite quote, the quote that was most thought provoking, etc.
6. Come back together as a whole group and have each group share the quote they chose.

Reflection Questions (choose one or a few that work best for your group)

- What did you appreciate about this quote? What didn't land so well with you?
- What was most inspiring about the quote you chose or about the quotes other people shared?
- What do you imagine the person was thinking about when they said or wrote their words?

Variations

- As a whole group, stand in a circle. Pass around a container full of quotes on slips of paper. Ask each youth to pull out an inspirational quote and read their quote out loud to the rest of the group. Ask them to hold onto this quote and bring them to their groups for the next small group activity, modeling questions for small group discussion:
 - What did you like about this quote? What didn't you like about this quote?
 - What did your quote most inspire, in terms of your own way of thinking or doing?
 - What quote inspired you the most? Why?

Extensions

- Learn about the people behind the quotes. When you provide the quote, include the context of the quote, the background of person behind the quote, and/or a photo of the person behind the quote.

Acknowledgements

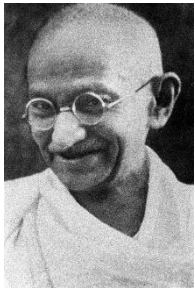
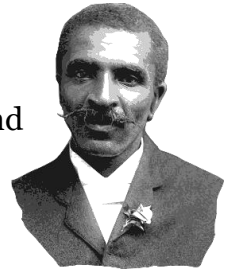
This activity has been modified from [Inspirational Quotes: The Power of Change](#) activity in the [Gardening in Our Warming World: Youth Grow curriculum](#) from Cornell Garden-Based Learning.

Voices in Justice Quotes:

George Washington Carver (estimated 1864 - 1943)

Agricultural Scientist, Inventor, Professor

Anything will give up its secrets if you love it enough. Not only have I found that when I talk to the little flower or to the little peanut they will give up their secrets, but I have found that when I silently commune with people they give up their secrets also – if you love them enough.



Mahatma Gandhi (1869 – 1948)

Human Rights Activist, Political and Spiritual Leader

As human beings, our greatness lies not so much in being able to remake the world, as in being able to remake ourselves.

Howard Thurman (1899 – 1981)

Author, Philosopher, Theologian, Educator, and Civil Rights Activist

Don't ask yourself what the world needs. Ask yourself what makes you come alive, and go do that, because what the world needs is people who have come alive.

Fourandsixty, CC BY-SA 4.0 via Wikimedia Commons



Grace Lee Boggs (1915 - 2015)

Activist, Speaker, and Writer

We can begin by doing small things at the local level, like planting community gardens or looking out for our neighbors. This is how change takes place in living systems, not from above but from within, from many local actions occurring simultaneously.

Kyle McDonald, CC BY 2.0 via Wikimedia Commons

Fannie Lou Hamer (1917 - 1977)

Food Justice and Civil Rights Activist, Creator of the Freedom Farm Cooperative

The time has come now when we are going to have to get what we need ourselves. We may get a little help, here and there, but in the main we're going to have to do it ourselves.



Sydney J. Harris (1917 – 1986)

Journalist

The three hardest tasks in the world are neither physical feats nor intellectual achievements, but moral acts: to return love for hate, to include the excluded, and to say, “I was wrong.”

James Baldwin (1924 - 1987)

Author, Poet and Activist

I imagine one of the reasons people cling to their hates so stubbornly is because they sense, once hate is gone, they will be forced to deal with pain.

Allan warren, CC BY-SA 4.0 via Wikimedia Commons



Cesar Chavez (1927 – 1993)

Labor Leader and Civil Rights Activist

We cannot seek achievement for ourselves and forget about progress and prosperity for our community...Our ambitions must be broad enough to include the aspirations and needs of others, for their sakes and for our own.

Joel Levine, CC BY 3.0 via Wikimedia Commons

Maya Angelou (1928 - 2014)

Poet, Civil Rights Activist

We are all at once both a composition and a composer. We have the ability not only to compose the future of our own lives, but to help compose the future of everyone around us and the communities in which we live.

Kingkongphoto & www.celebrity-photos.com CC BY-SA 2.0 via Wikimedia Commons



Martin Luther King Jr. (1929 – 1968)

Civil Rights Activist and Pastor

Power without love is reckless and abusive, and love without power is sentimental and anemic. Power at its best is love implementing the demands of justice, and justice at its best is power correcting everything that stands against love.

Minnesota Historical Society, CC BY-SA 2.0 via Wikimedia Commons

Dolores Huerta (1930 -)
Labor Leader and Civil Rights Activist

We just have to convince other people that they have power. This is what they can do by participating to make a change, not only in their community but many times changing in their own lives. Once they participate, they get their sense of power.

John Mathew Smith & www.celebrity-photos.com CC BY-SA 2.0 via Wikimedia Commons



Audre Lorde (1934 - 1992)
Self-described as “Black, lesbian, mother, warrior, poet”

When I dare to be powerful — to use my strength in the service of my vision, then it becomes less and less important whether I am afraid.

Elsa Dorfman, CC BY-SA 3.0 via Wikimedia Commons

Gloria Steinem (1934 -)
Writer, Lecturer, Political Activist, Feminist Organizer

One of the simplest paths to deep change is for the less powerful to speak as much as they listen, and for the more powerful to listen as much as they speak.



Leonard Zakim (1953 – 1999)
Civil Rights Leader and Activist

We have the power to change things. It doesn't take much to start a revolution of thought and spirit. It takes one person, and then another, and then another. We have to have the willingness to be respectful of each other, to celebrate our differences and not let differences become obstacles. It's a responsibility and a chore. But when it works, it's a work of art.

Malik Yakini (1956 -)
Food Justice and Civil Rights Activist

People aren't talking enough about the root causes of hunger and poor nutrition. The problem is not that we're not producing enough food. The problem is we have political and economic systems that exclude certain people from access and concentrate wealth and abundance in the hands of others.



Charles M. Blow (1970 -)
Journalist

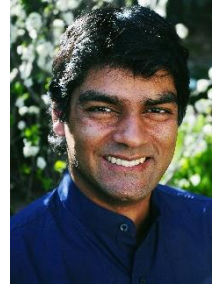
One doesn't have to operate with great malice to do great harm. The absence of empathy and understanding are sufficient.

Larry D. Moore CC BY-SA 4.0

Raj Patel (1972 -)
Writer, Activist, Journalist and Academic

What I miss in the U.S. food movement is an urgent sense of history. History about the soil on which local food is grown. About the blood of first nations and slaves in that soil. About the legacy of settler colonialism that lets some folk obsess over kale while those harvesting it can't afford to buy it.

Jan Sturmman, Raj Patel, CC BY 3.0 via Wikimedia Commons



Ross Gay (1974 -)
Poet, Author, Professor, below is his poem "A Small Needful Fact"

A Small Needful Fact
Is that Eric Garner worked
for some time for the Parks and Rec.
Horticultural Department, which means,
perhaps, that with his very large hands,
perhaps, in all likelihood,
he put gently into the earth
some plants which, most likely,
some of them, in all likelihood,
continue to grow, continue
to do what such plants do, like house
and feed small and necessary creatures,
like being pleasant to touch and smell,
like converting sunlight
into food, like making it easier
for us to breathe.



Roxane Gay (1974 -)
Writer and Activist

I embrace the label of bad feminist because I am human. I am messy. I am not trying to be an example. I am not trying to be perfect. I am not trying to say I have all of the answers. I am not trying to say I am right. I am just trying—to support what I believe in, trying to do some good in this world, trying to make some noise with my writing while also being myself.

Figure 1Eva Blue, CC BY 2.0 via Wikimedia Commons

Malala Yousafzai (1997 –)
Education Activist, Youngest Nobel Peace Prize Laureate

If we want to achieve our goal, then let us empower ourselves with the weapon of knowledge and let us shield ourselves with unity and togetherness.

DFID - UK Department for International Development, CC BY 2.0 via Wikimedia Commons



Amanda Gorman (1998 -)
Poet, Activist, First National Youth Poet Laureate, youngest poet to read at a presidential inauguration

If we're to live up to our own time, then victory won't lie in the blade, but in all the bridges we've made. That is the promise to glade, the hill we climb, if only we dare.

Chairman of the Joint Chiefs of Staff from Washington D.C., United States, CC BY 2.0 via Wikimedia Commons

Greta Thunberg (2003 -)
Climate Activist

We can't save the world by playing by the rules, because the rules have to be changed. Everything needs to change – and it has to start today.

European Parliament, CC BY 2.0 via Wikimedia Commons





4.3 Reimagine Our Food System

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Tie together food system concepts to visualize local food system.
- Reflect upon how the local food system works.
- Evaluate strengths and areas of growth for local food system.
- Develop confidence in ability to influence the local food system.

Life Skills

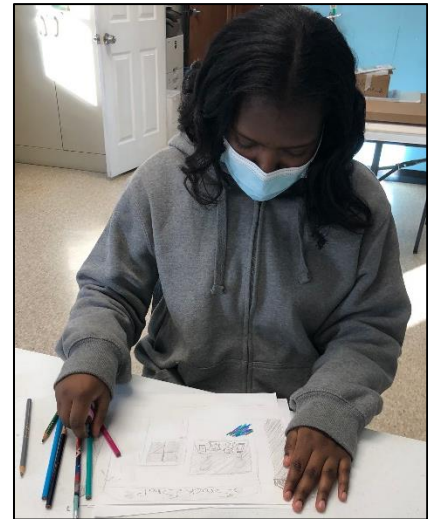
Decision-making, problem solving, critical thinking, service learning, planning/organizing, communications, social skills, concern for others, empathy, sharing, contribution to group, leadership, marketable skills

Time

20 minutes

Materials

- Community Food Map handout or blank sheet of paper
- Pencils, pens, or markers to create map



Space

Area for group to separate and have space for individual reflection.

Introduction

Throughout this curriculum, youth have explored our food system as a whole and how it impacts us and our spaces. In this activity, we will connect these bigger picture concepts to our local food systems. Youth will think how their local food system works and what pieces have room to grow. Systems are fluid. Using imagination empowers young people to challenge notions of what is and what can be.

In the first part of this activity, youth map their community with a focus on the food system. Youth first decide what this community is, it may be their school, neighborhood, town, etc. The prompts for this exercise are intentionally open-ended to encourage creativity. Encourage youth to think about how different pieces of the food system (i.e. growing, processing, distributing, accessing, eating, disposing) occur and interact in their community.

Once they have made their map, have youth to ponder what changes they would like to see. Encourage youth to list all ideas and not limit themselves. An

important piece of positive youth development is encouraging people to dream and explore. Use these maps as a launching point to find out what young people are interested and passionate about. Topics can be explored further in an action project.

Maps can be created using the community food map handout, on a blank sheet of paper, posterboard, computer program, etc. We encourage the facilitator to choose a medium that would work best for the group.

Before the Activity

The facilitator should take some time to reflect on their local community and food system. It can be helpful for the facilitator to create their own community food map and ponder the questions: Where is your food grown and how does it get to you? Where can you get food? What type of food can you access there? Is the available food fresh, affordable, and culturally appropriate? What happens to scraps and packaging after food is eaten?

Activity

Opening questions

- What does community mean to you?
- How do you interact with the food system?

Experience

1. Provide copies of the community food map handout or blank sheet of paper. Share that they will have the opportunity to draw a map or picture of their local community. As a group have the youth define the community in which they wish to explore the food system —their school, community center, neighborhood, town, etc.
2. Once the community has been defined, have the youth work alone or in small groups to think about the food system within this community and begin drawing it out. Guiding questions could be:
 - Where is the food grown and how does it get to the people in this community?
 - Where can people get food? What type of food do people have access to in this community? Is it fresh, affordable, and culturally appropriate?
 - What happens to leftover food and packaging after food is eaten?
 - If the community includes any farms, what happens to food that the farmer is unable to sell? What about food that the farm is unable to harvest due to time labor constraints?
 - If the community includes and places that food is sold, what happens to food that is expired? What happens to produce that goes bad?
 - If the community includes a food pantry or food bank, do people get to pick the food that they get or is the food pre-bundled? What happens to food that no one wants?

3. Once youth are done with their maps, have them reflect upon them. Draw in what changes they would like to see. Add in the changes to make their map as they would like it to be for themselves and for others.
4. Ask youth to share their drawings if they feel comfortable.
5. Have youth share a word to describe the experience.

Reflection questions

- How did it feel to map out your local community? What changes do you want to see?

Variations

The group can make a collective community food map together.

Learn More

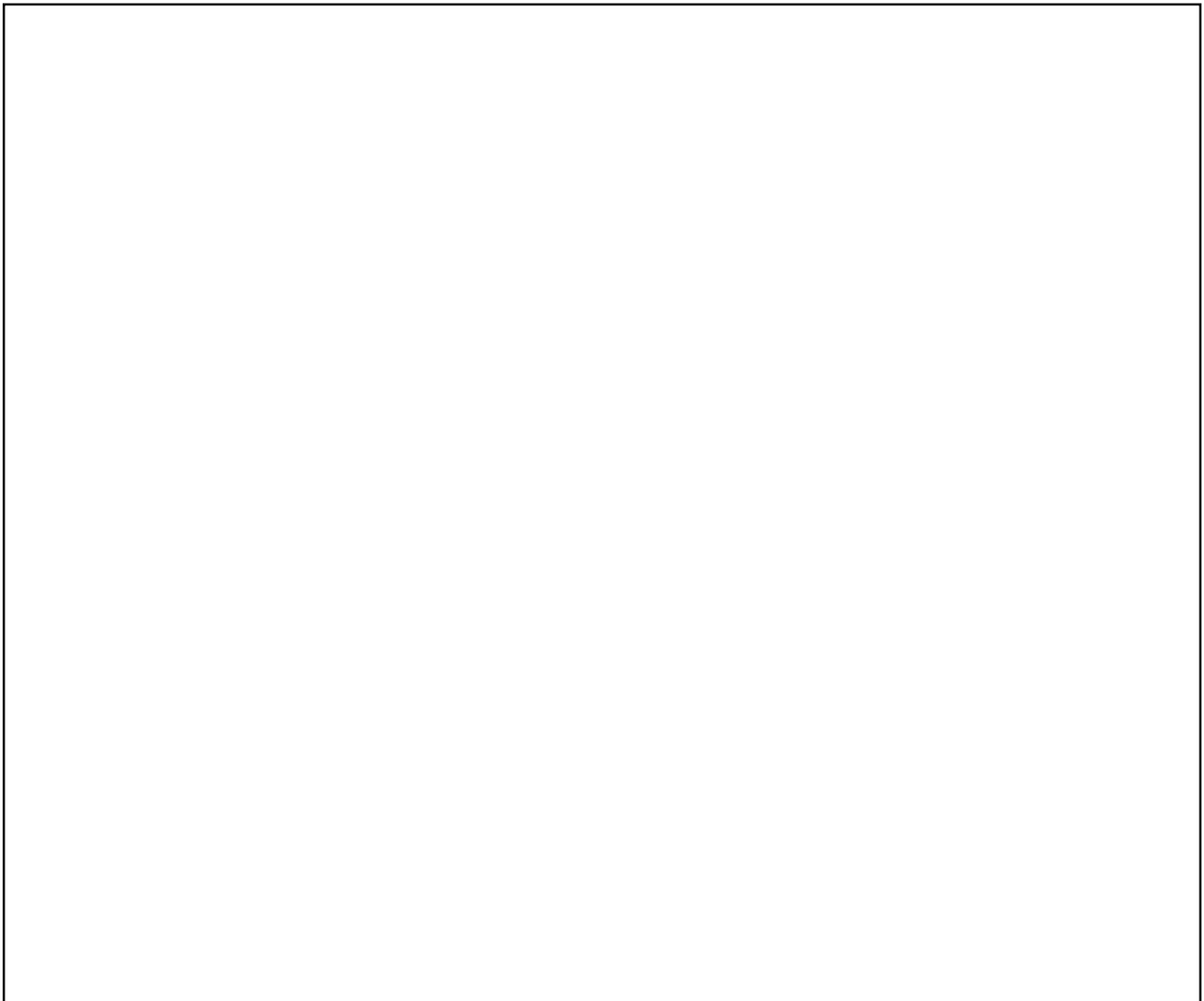
- [Community Food Mapping](#) Sustainable Food Places
- [Food mapping](#) Sustain
- [Healthy Food Access 101](#) Healthy Food Access
- [WTF... Where's the food project](#) National 4-H Geographic Information System/Global Positioning Systems (GIS/GPS) Leadership Team



Teens selling produce from their garden at farmer's market.

Community Food Map

- 1) Draw a map or picture of your local community. Define what this is: your school, community center, neighborhood, town, etc. When mapping, think about your local food system.
 - Where is your food grown and how does it get to you?
 - Where can people get food? What type of food do people have access to in this community? Is it fresh, affordable, and culturally appropriate?
 - What happens to leftover food and packaging after food is eaten?
- 2) Reflect upon your drawing. What changes would you like to see? Add in the changes to make the food system on your map as you would like it to be for yourself and for others.





4.4 Rooting Ourselves

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Explore how inner thoughts and beliefs align with outer actions.
- Make a simple goal for action to work towards a community food system of which you want to be part.

Life Skills

Learning to learn, decision-making, problem solving, critical thinking, service learning, goal setting, planning/organizing, keeping records, resiliency, communications, sharing, leadership, marketable/useful skills, self-motivation, self-esteem, self-responsibility, character

Time

20 minutes

Materials

- Long and narrow strip of paper for each youth
- Pencils or pens for each youth
- Index card for each youth to draw or write out their commitment

Space

Comfortable place for youth to reflect with writing surface available and whole group discussion

Introduction

In this activity, youth will explore how their inner beliefs can inform their outer actions. They will reflect on what is important to them. It is our intention to center on young people's gifts and to ultimately have each person determine a simple commitment they can make to work towards a community and food system of which they want to be part.

Share with youth that it is common to feel anxiety when we try to do too much – and indeed, it has become a Western cultural problem, with a lot of people feeling stressed out, and worried that no matter how much they do, it isn't enough. We hope to show youth the importance of understanding our limits and that we do not have to do it all to make a difference. In addition, when we do engage in activity, it is often so much more enjoyable when it is informed by our strengths, gifts, and interests – and we're more likely to follow through, too.

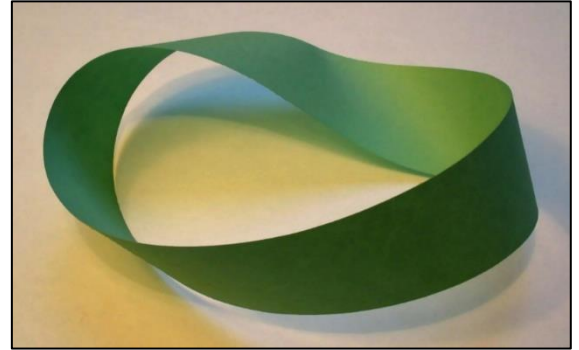


Teens promote healthy food options in corner stores.

To support this activity, there is a [video "Mobius Strip Exercise"](#) where the steps of creating a mobius strip are demonstrated.

Vocabulary

Mobius strip: an infinite loop, a one-sided surface with only one edge. It can be easily created by attaching the ends of a long, narrow strip of paper together after giving one of the ends a one-half twist. See example photo.



Example mobius strip. David Benbennick, CC BY-SA 3.0 via Wikimedia Commons

Before the Activity

As the facilitator, it can be helpful to reflect upon your inside beliefs and outside actions. It can be helpful to do the activity for yourself and think about what examples you can offer your group.

Activity

Opening Questions (Choose questions suitable for the group, if appropriate pose the question to set the tone and do not seek an answer)

- What brings you joy?
- What is important to you?
- What are your gifts?

Experience

1. Hand out a strip of paper to each person, have them write on one side of the paper “inside” and on the other side of the paper write “outside.”
2. Share with group this is an exercise in personal reflection, what they write down or draw is private. Nothing has to be shared unless they want to share it.
3. On the “inside” side, have each person write down or draw things that they believe are their biggest gifts, things they are good at, and values that are important to them. This could include ideas, values, beliefs, hopes, dreams, talents, and hobbies. If appropriate, you might offer an example of one of your own – something they might not know about you that you have on the inside.
4. On the “outside” side, have each person write and/or draw roles and responsibilities they have in school, at home, and at work. These could include how they believe others may perceive them, their image, their influence, their outward identity, and their impact. Again, you may want to share an example of some of the roles you play on the outside.
5. After the group has had enough time to reflect and write, bring the group back together. Hold up a strip of paper and bring the ends together to form a circle. Share that many people spend their entire lives living like this: keeping their beliefs and values on the inside separate from the way they live on the outside.

6. Now twist one end of the paper and bring the ends together to form a mobius strip. Share that a more harmonious and consistent way of living could be using our inner thoughts and beliefs to inform our outer actions, and reflecting on our outer actions to see whether or not they are consistent with what is important to us on the inside.
7. Ask youth to make a simple commitment. Based on what is important to them on the inside, what can they do to work towards a community and food system they want to be a part of. Emphasize this should be a simple and realistic commitment. Share with youth that it is common to feel anxiety when we try to do too much. We hope to show youth the importance of understanding our limits, and that we do not have to do it all to make a difference. Provide examples that connect the inner to the outer. If family is important to them, perhaps they can cook a meal for their family using local ingredients. If eating healthy is important to them, perhaps they could hang a poster on healthy eating up at their school. Here are some other examples of simple and realistic commitments:
 - I will compost my food waste.
 - I will use a reusable water bottle instead of buying bottled water.
 - I will not eat fast food from a big corporate chain for 30 days.
 - I will eat only vegetarian (no meat or fish) 1 day a week.
 - I will learn where my nearest farmer's market or farm stand is and buy my fruits and vegetables there instead of at the supermarket at least twice a month (or ask my parents to do that).
 - I will learn to cook a new dish from my culture and share it with family or friends.
 - I will volunteer at a local food bank or food pantry once a month.
8. Handout index cards and have youth write or draw their commitment.
9. Have youth gather in a circle, invite each person to take turns sharing their commitment with the group.
10. If feasible for your group, have a discussion on accountability. Ask the group, how can we be held accountable for our commitments? For example, you can revisit these commitments at your monthly meetings and check in on progress.

Reflection questions

- What does the mobius strip make you think of?
- How did thinking of commitments feel? Is your commitment realistic?
- Beyond the garden, what other areas of your life could this apply to?

Learn More

- [Center for Courage & Renewal](#)
- [Hunger and Malnutrition Toolkit Project Ideas](#) Learning to Give
- [Take it Home activity containing project and commitment ideas](#) Soul Fire Farm

Acknowledgements

The use of the mobius strip as tool for examining the interconnections between our inner and outer lives was developed by Parker Palmer and is widely used by Circle of Trust® facilitators prepared by the [Center for Courage & Renewal](#).

Part of this activity, creating a commitment, has been adapted from [The Big Commitment](#) activity in [Youth Grow](#) from Cornell Garden-Based Learning.



Teens filming video on the importance of eating healthy.



4.5 Garden Celebration

Skill Level

Beginner, Intermediate, Advanced

Learner Outcomes

- Contribute to group planning and offering ideas.
- Practice agency to actively contribute to group outcomes.
- Feel a sense of belonging and accomplishment.

Life Skills

Decision-making, problem solving, critical thinking, planning/organizing, wise use of resources, communications, cooperation, social skills, conflict resolution, sharing, nurturing relationships, leadership, contribution to group, teamwork, marketable skills



Teens conducting a taste test of produce from the garden.

Time, materials, and space are to be determined by the type of celebration.

Introduction

At the end of the program, it is important for the group to celebrate the hard work everyone put into learning and sharing, and planning, planting, and caring for the garden. The celebration can take many forms, it is important to incorporate youth voice into the planning process. Youth should be actively involved in making decisions and shaping what the celebration will be. Celebrations can offer opportunity for personal reflection and to strengthen connections among group members. This reflection and evaluation can be used in future program planning. The garden celebration can take many forms. Please encourage youth to be creative and have fun with it!

This garden celebration could look like:

- Celebratory harvest and potluck meal.
- Celebratory harvest, and packaging fruits and veggies to donate to a food pantry or sell at a farmers' market.
- Garden potluck meal creating dishes inspired by what is growing in the garden.
- Garden meal and cooking competition using garden-inspired ingredients.
- A fruit and veggie taste test. The fruits and veggies can be harvested from the group's garden or purchased.
- Creating a garden art mural or individual art projects for youth to take home with them.
- Garden games. This could be garden jeopardy or field day type games.

Before the Activity

Determine what date, time, and location are feasible for the garden celebration. Figure out what the budget will be for the celebration.

Activity

Guidelines for Celebration

- **Incorporate youth voice.** Youth should be involved in planning the celebration. If there is money set aside for the celebration, share with the group how much so the group can decide how it will be spent. Do not dismiss any ideas in brainstorming, rather collect ideas and then assess what is doable. To compile ideas, the group could make a concept map on paper or virtually. Helpful software mapping tools could be [Jamboard](#) or [Miro](#). Below are some guiding questions for group planning:
 - Have youth think of a celebration they attended in the past. What were the best parts? What was fun? What did you enjoy? What parts were not enjoyable?
 - How do we want to celebrate? What needs to be done? What role do people want to play? Who will do each part?
 - Who will be a part of the celebration? If the group wants to invite people outside of the group, how to invite them?
 - What is the budget? What is the menu?
- **Reflection and evaluation.** Celebrations are times of joy and accomplishment. They offer opportunity for personal reflection and to strengthen connections among group members. Below are some activities and resources you can use for reflection and evaluation:
 - **Web of Connection:** For this activity, you will need a ball of yarn and a space for the group to make a circle. As the ball is passed to each person, group members share a favorite group memory and something they will take away from the experience. Make sure each person does not let go of their piece of yarn as they toss the ball to someone else in the group; ideally the ball of yarn is passed to someone who is not standing next to the person holding the ball. Once everyone in the group had turn, a web of connection is created. This web represents the individuality of people's experience and connections that tie them together. The web represents the support available to each person and the overall strength of the group.
 - Cornell Garden-Based Learning's [Evaluation Toolkit](#) contains numerous resources and activities using different evaluation methods including surveys, interviews, and observation.

Learn More

[What is Youth Engagement, Really?](#) ACT for Youth Center for Community Action

Voices in Food Justice:

These Gardens are Blueprints by Naima Penniman

Video link: <https://youtu.be/KqwyOKRMSW8>

Multidimensional artist, healer, grower, educator, and program director at Soul Fire Farm, [Naima Penniman](#), shares a message of hope and story of resilience in this [spoken word poem “These Gardens are Blueprints”](#).

Below are some possible discussion questions:

- How did you feel watching the video? With what/whom did you connect; why might this be?
- Who are some people Naima highlights in her message?
- What are some challenges in our current food system? What inspired you in Naima’s message?
- What do you think Naima means when she says “hold on tight to the source, we have all that need”?



S.O.W. Food for Thought: Unit Two

Directions: For each prompt, write or draw a response.

- Take a gratitude moment each day this week. Note three things that you appreciate and what you know about them.

- What has surprised you the most during our time together? (This could be about your own reactions to what went on, something that someone did, or anything else that occurred).

Project S.O.W. Learning Standards

Unit One: Cultivating Community						
<u>Subject Learning Standards</u>	Activity Connections to Learning Standards					
	1.1 Group Bingo	1.2 Community Agreements	1.3 The Importance of Land	1.4 Raisin Imagination	1.5 Growing Microgreens	1.6 The World Under Our Feet
English						
Reading			1,4,6			
Writing						
Speaking and Listening	1	1	1	1		
Language						
Family and Consumer Science	3	1,3			3	3
Health	2	1,2,3		2		
Mathematics						
Physical Education					1	1
Science				MS-PS1-3	MS-LS1-4; MS-LS1-5	MS-LS1-5
Social Studies			3	1,3		3

Unit Two: Gardening with Gratitude						
<u>Subject Learning Standards</u>	Activity Connections to Learning Standards					
	2.1 Gratitude Circle	2.2 Appreciation in the Garden	2.3 Markers of Inspiration	2.4 Connecting with Elders	2.5 Reading a Seed Packet	2.6 Imagine, Plan, Plant
English						
Reading					1	1
Writing		2,4				
Speaking and Listening			1	1,4,6		1,4
Language				1,3	6	4,6
Family and Consumer Science	1,3	1,3		3		3
Health	1	1,2	2			2
Mathematics						1
Physical Education						1,4
Science					MS-LS1-4; MS-LS1-5	MS-LS1-6; MS-LS1-4; MS-LS1-5
Social Studies		1,3		1		3

Project S.O.W. Learning Standards

Unit Three: Sowing Seeds of Curiosity							
Subject Learning Standards	Activity Connections to Learning Standards						
	3.1 Complexities of Strength	3.2 Where do You Land?	3.3 Journeying Through Our Food System	3.4 Food System Influences	3.5 What is Justice?	3.6 Let's Talk about Food Justice	3.7 Planting the Garden
English							
Reading				7	1,4	1,4	
Writing							
Speaking and Listening	1	1	1,4	1,2,3	1	1	
Language			6	6		6	
Family and Consumer Science	1,3			3	3	3	3
Health	1,2	2	2	2,3	1,2	1,2,3	
Mathematics							
Physical Education		4				4	1,4
Science			MS-PS1-3	MS-PS1-3; MS-LS2-2; MS-LS1-5; MS-ESS3-5; MS-ESS3-4			MS-LS1-6; MS-LS1-4; MS-LS1-5
Social Studies			3	1,3,4,5	1,3	1,3,4,5	

Unit Four: Rooting Resilience					
Subject Learning Standards	Activity Connections to Learning Standards				
	4.1 Step in	4.2 Voices in Justice	4.3 Reimagine Our Food System	4.4 Rooting Ourselves	4.5 Garden Celebration
English					
Reading		1,4,6			
Writing			2,4	2	
Speaking and Listening	1	1,4	1,4	4	1
Language					
Family and Consumer Science	1,3	3	3	1,3	3
Health	1		2,3	1,2,3	2
Mathematics					
Physical Education	4				
Science			MS-LS2-2; MS-LS1-5		
Social Studies		1	3		

Project S.O.W. Learning Standards

Subject	Standards
English	
Reading	STANDARD 1: Read closely to determine what the text says explicitly/implicitly and make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
	STANDARD 4: Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape, meaning or tone.
	STANDARD 6: Assess how point of view or purpose shapes the content and style of a text, drawing on a wide range of global and diverse texts.
	STANDARD 7: Integrate and evaluate content presented in diverse media and formats.
Writing	STANDARD 2: Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
	STANDARD 4: Develop personal, cultural, textual, and thematic connections within and across genres through written responses to texts and personal experiences.
Speaking and Listening	STANDARD 1: Prepare for and participate effectively in a range of conversations and collaborations, with diverse partners; express ideas clearly and persuasively, and build on those of others.
	STANDARD 2: Integrate and evaluate information presented in diverse media and formats (including visual, quantitative, and oral).
	STANDARD 3: Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric.
	STANDARD 4: Present information, findings, and supporting evidence so that listeners can follow the line of reasoning. Ensure that the organization, development, and style are appropriate to task, purpose, and audience.
	STANDARD 6: Adapt speech to a variety of contexts and communicative tasks, demonstrating command of academic English when indicated or appropriate.
Language	STANDARD 1: Demonstrate command of the conventions of academic English grammar and usage when writing or speaking.
	STANDARD 3: Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
	STANDARD 4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
	STANDARD 6: Acquire and accurately use general academic and content-specific words and phrases sufficient for reading, writing, speaking, and listening; demonstrate independence in gathering and applying vocabulary knowledge when considering a word or phrase important to comprehension or expression.
Family and Consumer Science	Standard 1: Personal Health and Fitness. Students will have the necessary knowledge and skills to establish and maintain physical fitness, participate in physical activity, and maintain personal health.
	Standard 3: Resource Management. Students will understand and be able to manage their personal and community resources.

Project S.O.W. Learning Standards

Subject	Standards
Health	Standard 1: Personal Health and Fitness. Students will have the necessary knowledge and skills to establish and maintain physical fitness, participate in physical activity, and maintain personal health.
	Standard 2: A Safe and Healthy Environment. Students will acquire the knowledge and ability necessary to create and maintain a safe and healthy environment.
	Standard 3: Resource Management. Students will understand and be able to manage their personal and community resources.
Math	Standard 1. Make sense of problems and persevere in solving them.
Physical Education	Standard 1: Demonstrates competency in a variety of motor skills and movement patterns.
	Standard 4: Exhibits responsible personal and social behavior that respects self and others.
Science	MS-PS1-3. Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.
	MS-LS1-6. Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.
	MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms in a variety of ecosystems.
	MS-LS1-4. Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants, respectively.
	MS-LS1-5. Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.
	MS-ESS3-5. Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.
	MS-ESS3-4. Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth’s systems.
Social Studies	Standard 1: History of the United States and New York. Students will use a variety of intellectual skills to demonstrate their understanding of major ideas, eras, themes, developments, and turning points in the history of the United States and New York.
	Standard 3: Geography. Students will use a variety of intellectual skills to demonstrate their understanding of the geography of the interdependent world in which we live—local, national, and global—including the distribution of people, places, and environments over the Earth’s surface.
	Standard 4: Economics. Students will use a variety of intellectual skills to demonstrate their understanding of how the United States and other societies develop economic systems and associated institutions to allocate scarce resources, how major decision-making units function in the United States and other national economies, and how an economy solves the scarcity problem through market and nonmarket mechanisms.
	Standard 5: Civics, Citizenship, and Government. Students will use a variety of intellectual skills to demonstrate their understanding of the necessity for establishing governments; the governmental system of the United States and other nations; the United States Constitution; the basic civic values of American constitutional democracy; and the roles, rights, and responsibilities of citizenship, including avenues of participation.

Youth Action Project

Throughout Project S.O.W., youth work together to investigate how to grow food, explore their relationship with the land and food system, reflect on introductory justice concepts, and practice leadership. We encourage youth to take what they explored and further their interests by way of an action project. This project is an opportunity for the group to continue to learn, grow and share with others as they do. We encourage the group to start small and finish, and to keep it manageable – in fact, in an era of “too busy and too much,” keeping the project small will ensure its completion and hopefully, be a joyful experience as well. This project can be done by the group or individually. We hope this project offers youth the opportunity to learn more about a food gardening topic that interests them and empowers them to share this knowledge with their community. [Research](#) has found that garden interest in young people is strongly linked to decision-making opportunities, more so than garden activity (Lekies & Eames-Sheavly, 2008). We encourage facilitators to lean into this as they support young people through developing their projects. Their project can take many forms which can include and is not limited to... growing a portion of their own food, giving a community presentation, making a garden sign, growing food for a local pantry, interviewing people in their community about food traditions, learning about their own food traditions, going on a field trip, and more.

Below are some guidelines to help youth develop their project.

- 1) Explore what most interests the group or individuals. Use activities 4.3 Reimagine Our Food System and 4.4 Rooting Ourselves as a launching point. Generate a list of topics or issues that the group is interested in.
- 2) Research your topic of interest and talk to stakeholders. Create a community survey to learn about topic prevalence and relevance. Go on a field trip to learn more.
- 3) Make a plan: determine what needs to be done for success and make a schedule to ensure tasks get done.
- 4) After each step of the plan, evaluate what worked well and what did not work well.
- 5) Come together for celebration after project completion.

References

Lekies, K. S., & Eames-Sheavly, M. (2008). [Evaluating an initiative to increase youth participation in school and community gardening activities](#). *Journal of Youth Development*, 3(2), 119-125.