Garden Learning Engagement

LE 2 "What Should We do?" Questions in the Garden

Background

Asking "what should we do?" and then making a decision is something that people, including gardeners, do every day. Deciding what to do involves knowledge about the place, understanding values and goals, and exploring possible impacts of a decision. Socio-ecological "should we" questions (1) explore relationships between humans and the natural world, (2) explore multiple possibilities and how each decision impacts families, communities, and the natural world, (including gardens), and (3) encourages us to make more ethical and accountable decisions within the garden, nature, and social world. "Should We" questions require deliberation and action, even when we are uncertain of the answer.

Purpose

For every single garden task, gardeners are constantly asking themselves questions. During every season, there are decisions to make -- sometimes it seems simple, but often it is more complex than it might seem. There may be several possible answers, about which the gardener must deliberate what could be an ethical solution at this moment, in this season, and in this particular place. This lesson will introduce new gardeners to some common "Should We" questions that more experienced gardeners ask themselves as they navigate the constantly changing garden. By introducing these common "Should We" questions, this lesson will help learners develop a "gardening habit of mind" to help them begin to know what to look for and ask in order to prepare for and respond to changes in the garden.

Connections to family and community gardening knowledges and practices

After the group decides on a practice to focus on, the learners will go home and ask their family and community members how they would answer the "Should We" garden questions that were raised during our time together. Send home the Family Tool so they can write or draw these ideas. You may not receive a Family Tool back from every learner, and that's ok. Some learners may have had discussions and will share their ideas verbally. Educators can then elicit and incorporate these ideas in LE3 when proposing different methods for answering these "Should We" questions.

MATERIALS

- Educator Tool: Garden Task Chart
- Learner Tool: Garden Wondering Walk
- Family Tool: Creating an Initial Model of Our "Should We" Garden Question

LEARNING GOALS

Learners will...

- Become familiar with 8 common garden practices
- Find connections between their questions and decisions that gardeners make
- Understand the role of deliberations within "Should We" questions
- Use modeling to visualize complex systems in garden tasks

Centering Equitable Practices:

When identifying a focus garden task there may not be consensus, and that's ok. Here are some educators moves to **build consensus** around decision making:

- **Acknowledge the amazing range of questions/ideas and be transparent with your thought processes and decision making.** This could sound like "We have come up with an amazing range of questions, but as the teacher I need to make a decision with the time we have, the materials that are available and the size of the groups. Given these constraints I decided _____ because_____."
- **Record and share out the question/ideas:**
  - Give the learners a list of all these questions/ideas they came up with so that they have this as a resource if they want to research it later at home.
  - Share the questions/ideas with other people who are involved in this place so that learners see that these ideas are being passed on. This could include sharing other questions the group has considered with the person during the community interview, or letting the group know you will be sharing this with the garden manager or the garden committee.
- **Check in with how learners are feeling.** Continually ask the group how they are feeling about things so students can express buy in or not buy in. You may hear, "I feel frustrated my question wasn't chosen," or "I feel like it's going to be boring". If one student is really excited and another student thinks it will be boring, there may be a disconnect and more information needs to be shared.
- **Involve learners in the process of narrowing down choice and selecting a final question.** If there are multiple tasks that interest the group, ask the group to identify a question that holds the relationship between the two tasks together. The relationship between the two tasks is something that can be explored! For example, you may suggest, "Maybe these tasks are connected and we just haven't figured out how. Can anyone think of a question that holds the relationship between the worms in the compost bin AND harvesting carrots."

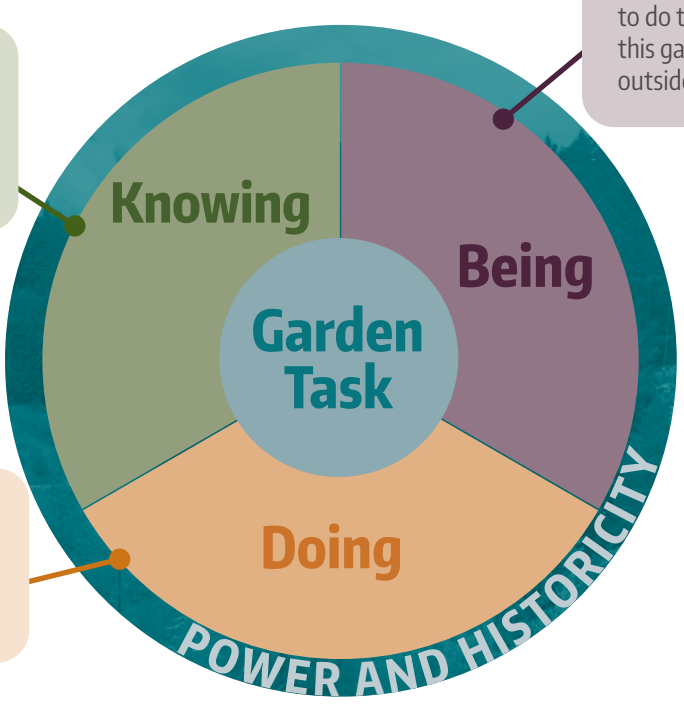
Throughout the instructional sequence we call out moments that tie into the knowing, being and doing of garden practices.

Importance/Intent

Why does it matter to me/my family/our broader community to do this garden task? How does this garden task affect people outside of my community?

Connections to Science Content

What do we need to know in order to do the garden task?



Garden Methods

What are the **methods** we use to do this garden task?

Instructional Sequence

TIME

1 hour, 25 minutes

Part 1: Introduction to Garden tasks: (10 minutes)

- In a full group discussion, ask the learners: What kinds of things do you and your family do in the garden? What are things people do in this garden to care for it? What do you think we need to do in the garden to help it grow and be healthy?
- Ask learners to share their ideas. For example, gardeners tend to plants, water, dig in soil, pull weeds, etc. Write these responses on a poster board or a white board.
- Build off of the learners' emerging ideas:
  - "Those are all great ideas–you named many of the garden tasks. Here are some of the other garden tasks that we typically think about: garden planning and management; soil health; seeds and transplants; watering; supporting healthy ecosystems; plant growth and development; harvesting, sharing, and celebrating; and saving seeds."

Being

Identifying why this task matters to me and my family/our community in an important connection to the "Being" of the garden task.

Part 2: Take a Garden Wondering Walk (30 minutes)

- Prompt learners to notice/wonder as we walk through the garden: "What is happening in the garden this season?"
- Have learners write/draw their wonderings on sticky notes, the Garden Wondering walk tool, or their notebooks.
- Use the Back Pocket Questions to help prompt and support learners' ideas and observations.

Table 1: Garden Task Chart

Garden Planning	Soil Health	Seeding and Transplanting	Watering	Supporting Balance Between Species	Plant Growth and Development	Gathering	Seed Saving

Part 3: Connecting our Wonderings to Garden Tasks (10 minutes)

- Invite learners to share their wonderings and noticings from the garden by grouping the sticky notes into columns on the Garden Task Chart (see above). An observation or a wondering might fall into more than one garden task! **Tip: use markers so that words on the sticky notes are visible from farther away.**
  - **Older learners** will likely be able to place their sticky notes on the Garden Task Chart without assistance.
  - **Younger learners** may need to share verbally, and may need help making connections between their wonderings and the garden tasks.

Doing & Knowing

Grouping our wonderings and noticing by Garden Task will connect to both "doing" and "knowing"
For example, a student may notice there are hoses in the garden and I wonder when the gardens gets watered. This is connected to both the doing and knowing of the garden tasks.

Being

Some garden tasks may be have more significance to your families/ communities and you might select a garden task based on that. *For example, you might not have many sticky note observations for seed saving but if it is something that each family identified as an important garden task then you might select this garden task because it matters to the families.*

- Lead the learners in a discussion to talk through their noticings and wonderings.
  - "Let's think together about what common themes we see so far. Which garden task seems to have the most sticky notes with questions and observations? Are there garden tasks that don't have a lot of sticky notes, but have very interesting questions and observations?"
- Choose one garden task that you want to learn more about. (See notes on consensus building on page 7)

Part 4: Identify a "Should We" question, launch modeling, and introduce Family Tool LE 2 (15 minutes)

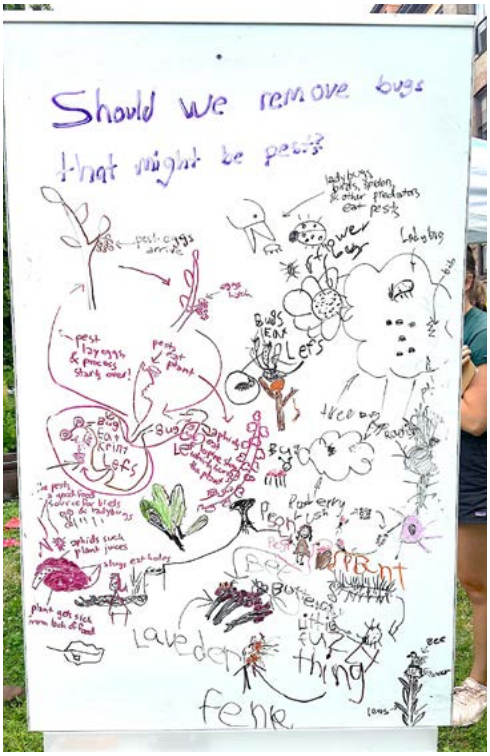
If a "Should We" question emerges from your conversation about a garden task you can proceed directly to part 4. However, you may need time to reflect on the wonderings and noticings from the learners to identify a "Should We" question. Now is a good time to take a break, switch activities and come back to this conversation later.

- **Identify a "Should We" question.** Now that learners' wonderings have been grouped and a garden task has been selected, look for an emerging "Should We" question. If the "Should we" question is not obvious, take time to reflect using "Supplemental Information: Identifying a "Should We" question in the garden" on pg 7 and "Table 2: Common Garden "Should We" questions" on pg 6.

Knowing

It is important to understand the interconnected relationships in a garden and how those relationship are impacted by garden tasks.

- **Introduce scientific modeling and draw an Initial Model of your "Should We" Question (15 minutes)**. As a group, you will draw an initial model on a white board to understand how your "Should we" question can affect the relationships in this place. This will help you deliberate and come to a decision about your "Should We" question. You will use this model in LE3, and the rest of the Garden Storyline. For more information about models, see LE 3.
  - Explain to students: "Scientists' models are more than just drawings. They are tools that scientists use to think with and to test out their ideas. They change as scientists' ideas change through investigations. Those are the kinds of models we are going to create today. We are going to draw everything we can think is involved with our "Should We" question and garden task."
- **Ask learners to identify important relationships or plants/animals/ kinds who are involved in the "Should We" question**. As learners share their ideas, invite them to draw their ideas on the white board to add to the model. This activity helps to launch the Family Tool LE 2 that you will send home. This is an opportunity to share initial ideas. In LE 3 there is more time to be explicit about modeling (adding arrows, cycles, explanations etc.).
- Keep the model up on the board, take a picture of it, or draw on easel paper so that learners can revisit it in LE3.



» **Introduce the Family Tool LE 2 to send home(5 minutes)** Pass out the Family Tool. **Have the learners write down the garden task they chose on the top of the worksheet**. Explain: We want to learn from you and your families what you already know about this garden task, and the "Should We" questions. Talk to your family or neighbor, write or draw what you learn together, and bring it back next time. These ideas will help us with our investigation in the garden! If you don't know about this garden task, that's ok–you can share things that you do together with your family in the garden or outside.

Being

Learning family/community knowledge that can teach us healthy ways to manage pests and restore ecosystems.

Extension Activity:

» Once you have identified a garden task in part 3, take a focused walk together and make observations about that specific garden task. For example, if composting emerged from your garden wondering walk, walk as a group to the compost bin or other places in the garden where decomposition is occuring. See what new noticings and wonderings emerge from a focused walk. This activity may help if a "Should We" question is not obvious at first.

Educator Notes for Planning Ahead:

- Once you have selected a garden task, refer to the garden task. Review the background information and the knowing/being/doing chart.
- Use the **Educator Planning Tool** to record your garden task and "Should We" question. Use the planning prompts to begin planning for LE 4: Routine Decision Making. Begin to think about who to invite to the community interview during LE 5.

Table 2: Common Garden "Should We" questions

Garden Planning	Soil Health	Seeding and Transplanting	Watering	Supporting Balance Between Species	Plant Growth and Development	Gathering	Seed Saving
What should we grow/eat this year?	Should we amend the soil?	What should we plant now (crop selection and season)?	Should we set up/use an irrigation or watering system?	Should we treat a pest, weed, or disease infestation on a plant(s)?	Should we prune this plant?	What should we harvest now?	When should we save seeds?
How should we care for the garden, and who should care for it?	Should we till (disturb) the soil?	Should we plant now? (Is the soil ready?)	Should we collect rainwater?	Should we ignore infestation?	Should we stake/trellis/ support this plant?	What should we do with the harvest?	From which plants should we select to save seeds?
What should we learn this year?	Should we incorporate or remove mulch/ cover crop/ leaves/burlap from previous season?	Should we plant seeds or transplants?	Should we water now?	Should we remove infected plants?	Should we thin or remove plants?	Should we share the harvest with the community, humans and more-than-humans?	Should we prioritize saving certain seeds?
	What composting system should we use?		How much/ how deeply should we water?	Should we apply certain methods now to prevent a possible infestation/ infection?		When should we harvest?	What should we do with the saved seed? (keep, give, share, swap, sell)

Supplemental Information: Identifying a "Should We" question in the garden

A "Should We" question (1) explores relationships between humans and the natural world, (2) explores multiple possibilities and how each decision impacts families, communities and the natural world, including the garden, and (3) encourages us to make more ethical and accountable decisions within the garden, nature and social world.

A "Should We" question is not a question you can just search for an answer on the internet or a simple yes or no question. For example "Should we count how many worms are in the compost?" is not a "Should We" question because it is a yes or no question. However, "Should we build a bigger worm bin?" would be a good "Should We" question because it is an ethical decision involving humans and the natural world.

At times "Should We" questions are apparent. For example, a learner may be looking inside of the worm bin and notice that there are a lot of worms close together. They may record their wondering: "I wonder if the worms are too squished together?" This wondering could be connected to the "Should We" question "Should we make the worm bin bigger?"

However, if the "Should We" question is not as obvious, take time to reflect on possible "Should We" questions. Discuss with fellow educators to find patterns to the wonderings around garden tasks. What are possible "Should We" questions for our investigation? Look at Table 2 for some common garden "Should We" questions that gardeners ask themselves. If a "Should We" quest ion is still not obvious, choose from one of the 3 common "Should We" questions for that garden task. When you have identified a possible "Should We" question around your garden task, share that with the learners.

Connect learner's wonderings to the "Should We" question. For example,"I see that we have a lot of wonderings about worms in the compost bin. Many of us are wondering if the worms are too squished together and if they might need more room. Gardeners ask themselves questions when they see a problem or when they think something new should happen. They call these "Should We" questions for the garden. I am noticing that we have a "Should We" question: "Should we make the worm bin bigger?" This will be our big question for the week and many of our wonderings fit into this big question."

LE 2 Educator Backpocket Field tool

TIME	
10 min	Introduction to Garden tasks discussion
30 min	Garden Wondering Walk
10 min	Connecting our Wonderings to 8 Common Garden Tasks
15 min	Identify a "Should We" question
15 min	Draw an Initial Model of their "Should We" Question
5 min	Introduce Family Tool LE 2

Connections to family and community:

- What would your family do if they came to this place?
- What kinds of things do you and your family do in the garden?
- Does this garden remind you of other gardens you have seen?

Focus on Modeling:

- Identify, share and draw important **relationships** that are involved in the "Should We" garden task question:
  - Relationships between plants/animals/kinds (wind, rock, water)
  - Seen and unseen relationships
- Label the connections you find

Learner sensemaking:

- If learners ask, "what is it?", try not to play the name game, focusing on taxonomic information. Here are alternative questions to ask:
  - What do you notice about it?
  - What is it in relationship with in the garden?
  - How is it similar/ different then the plants/ animals around it?
  - How could we find out more?

Centering Equitable Practices

Encourage more-than-human perspective taking:

- How is this garden good for the trees? plants?
- How is this place good for the worms? for the soil?
- I wonder what this might look/feel/taste/sound like if you were a bug/bird/tomato plant.
- Who (bug/bird/tomato/worm/human) would choose to spend time in this garden?

Encourage human connections to ecosystems:

- How are humans helping this garden? How is this garden helping humans?
- How are humans connected to this garden? How do you know?
- What do you think we need to do in the garden to help it grow?
- What are humans doing here to keep plants and animals safe?
- Can you find an example of a relationship between a plant and an insect? A plant and a human? The soil and an animal or insect?
- What is that [human made object] and why do you think it's there?

Thinking Across Scales:

- What will this garden look like in 100 years?
- What would this garden look like in winter? At night?
- Make connections to your Histories of Places walk!

8 Common Garden Tasks