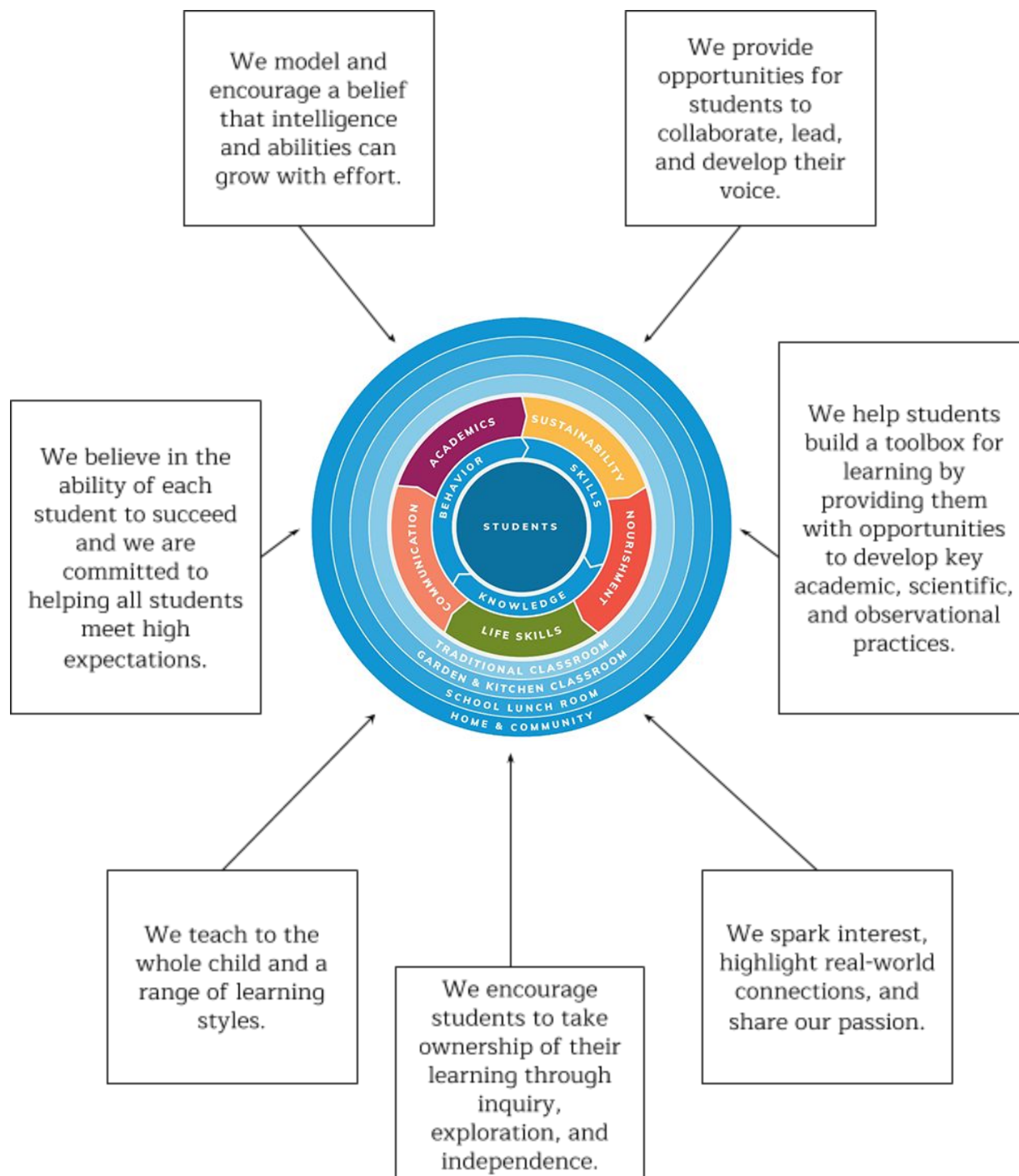




Practices for Engaging Students in Edible Education





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1. We model and encourage a belief that intelligence and abilities can grow through effort. This “growth mindset” contrasts with a “fixed mindset,” one in which students believe that qualities like intelligence and talent are fixed traits that cannot be changed and alone guarantee (or hinder) success. We build students’ growth mindset by engaging them in challenging material as a way to build skills and knowledge; supporting them in persisting through obstacles and learning from failure; and praising their effort rather than their results. We model collaboration – as well as giving and receiving critical feedback – as an important method for building intelligence and abilities. We celebrate students’ hard work and desire to learn in all aspects of garden education and provide the space for students to recognize a growth mindset in each other.

Specific practices include:

- *Providing opportunities for students to see and reflect on their own growth.* For example, the immersion weeks give students an entire week to tackle a project, try different approaches, and see the results of their effort. Help students notice traits like persistence and hard work in each other by providing time for reflection and appreciation. If you see students over multiple years, invite them to think back to their first time in the garden. What have they learned? Have they improved their skills? We often ask older students to teach each other, based on the experiences they have had in the garden so far. In addition to building student leadership, this allows students to recognize their growth!
- *Coordinating with the school or teacher’s system of recognizing effort and work habits.* At King Middle School, we call this system “Habits of Work.” In the garden, we look out for these habits and reinforce them through specific feedback.
- *Giving specific and positive feedback related to what students can control (effort, strategies, attitude).* Try “I really love the effort I’m seeing here.” instead of “Wow! You did a great job! This must be so easy for you!” or “It’s OK. Not everyone is a natural at this. Let’s move on to something you’re better at.” Share stories of developing your own skills through persistence, and don’t be afraid to mention your mistakes as well!



2. We believe in the ability of each student to succeed and we are committed to helping all students meet high expectations. The garden space can be a haven for students in school, allowing them to showcase skills and build community in a different way than the classroom norm. By developing a culturally responsive pedagogy, partnering with key departments in your school community (we have a strong relationship with King Middle School's special education program, for example), and prioritizing practices that create safe and supportive learning environments for all, you can play a critical role in building an inclusive program that brings out the best in your students.

Specific practices include:

- *Coordinate with the school or teacher's equity program.* King Middle School requires all staff to enroll in a three-day Cultural Competency Academy and has Equity Coaches to support the school community in creating an inclusive academic setting. King Middle School has committed to a culture of "high expectations and high help" and has adopted the slogan: "You can do it. You will do it. I will help you. How can I help you?" These statements are posted throughout the school and provide a common language for teachers and students. The Edible Schoolyard has also created "Respect in the Garden" community agreements that mirror the school's 4 Bs behavior agreements. We intentionally coordinate with the school to foster consistency and hold students to clear expectations. We often attend staff meetings at the school to hear updates on campus climate and to learn new strategies to support our diverse student body.
- *Knowing as a strategy.* Investing in building relationships with and knowledge of your students is a key piece of providing access and support. As an educator, take the time to learn about your students' needs and experiences at home and at school. Individually and organizationally, explore the impact of culture, identity, power, and privilege on the schooling experience. Build your skills in multicultural conversation and develop your teaching practices to ensure access for all students, especially those historically underserved by the educational system.
- *Accessing students' prior knowledge and experience.* By soliciting students' existing perceptions of and interactions with your program's content, you can validate their experience, learn more about their lives, and establish common interests and knowledge.



Providing opportunities for students to share their opinions and stories sends a message that your program cares to hear them, which is a powerful tool in building student buy-in and engagement.

- *Reflecting a diversity of cultures in your program.* In our lessons, we choose a variety of stories, topics, and foods to represent a diversity of experiences. Our history walks in particular showcase how cultures from around the world and through time have engaged with farming, food, and the environment and provide an excellent opportunity to discuss social justice issues.
- *Building academic language through “Structured Student Talk Time.”* During our in-class discussions (see more about our discussion routines in Practice #6), we often use written sentence frames to structure student talk time. By displaying questions – along with frames for possible responses – on clipboards or whiteboards, we allow all students to access and practice using academic language. Sentence frames can be easily customized to support a variety of conversations. (“One method of conserving water is _____. I believe it is effective because _____.”)

3. We teach to the whole child and a range of learning styles. We seek to recognize, engage, and celebrate students’ whole selves and address their comprehensive needs. In the garden classroom, we create space for students to nourish their bodies through physical exercise and nutritious food, challenge their minds through engaging and relevant activities that support their learning styles, and build a safe and inclusive community with peers and caring adults. As teachers, we also bring our whole selves to our work. Because we teach in a team, we are able to model a variety of communication styles, utilize a range of teaching practices, and provide opportunities for students to connect to adults with different personalities and interests in the garden.

Specific practices include:

- *Utilizing interactive and engaging visual aids and props.* We prioritize the creation and use of beautiful, thoughtful, and discussion-provoking visual aids. We also leverage elements of the garden environment as illustrative and exciting teaching tools, such as a comb from our beehive, the root nodules of leguminous plants, or our compost row system.



These visual aids spark curiosity, support content delivery, and provide students with an opportunity to analyze and interpret visual information.

- *Remembering our ABCs: Action Before Content.* Diving into a hands-on exploration of the garden increases student buy-in, provides context for future discussions, and supports kinesthetic learners. Try “frontloading” activities rather than content.
- *Structuring lessons with the Learning Cycle.* Based on studies of how people learn, the team at the Lawrence Hall of Science developed a Learning Cycle model (detailed in the “Learning Cycle” take home in this section of your binder) that invites engagement, allows students to connect to prior knowledge, gives learners choices in exploring and applying a topic, and allows time for meaning-making through intentionally sequenced activities. We often adopt this model in our garden lessons to encourage and support in-depth and meaningful learning experiences.
- *Reinforcing key concepts using multiple media.* When planning a lesson, we consider how to represent important information to accommodate a diverse range of learners. By employing a combination of dynamic visual aids, interesting written material, group discussions of varying sizes, and hands-on activities, we give students several opportunities to grasp and engage with the topic at hand.
- *Engaging the five senses.* The garden offers a unique opportunity for students to interact with the natural world. We invite them to use their five senses to fully experience their surroundings by preparing tastings; smelling flowers, herbs, and even handfuls of sifted compost; making observations about the garden environment; incorporating music and sound into lessons while also enjoying the natural ambience; and using their bodies to do garden work and play interactive games.
- *Making space for art and creativity.* Whether by painting multilingual garden signs, decorating the Edible Schoolyard as the “Edible Ghoulyard” for Halloween, building a giant birds’ nest, arranging flower bouquets for the kitchen, or preparing a gorgeous platter of produce for a tasting, we encourage students to exercise their creativity and honor beauty as a language of care.



4. We help students build a toolbox for learning by providing them with opportunities to develop key academic, scientific, and observational practices. We see the garden as a living laboratory in which students can develop the skills needed for lifelong critical thinking. In alignment with the Next Generation Science Standards (NGSS)' emphasis on science/engineering practices and crosscutting concepts (in addition to disciplinary core ideas), we encourage students to practice key skills throughout their time in the garden. We've noticed that providing students with opportunities to make careful observations and conduct investigations not only increases their scientific skills; it also invites them to fall in love with the natural world.

Specific practices include:

- *Using the "I Notice, I Wonder, It Reminds Me Of..." routine.* This practice, taught to us by the Lawrence Hall of Science BEETLES program, invites students to focus on an object from nature and share with a partner, in alternating succession, what they notice about the object. Then, when instructed, they switch to what they wonder, and finally what the object reminds them of. This routine helps students develop a mindset of curiosity and provides language tools to engage with the natural world. It also encourages students to relate nature to their own lives and share more about themselves in the process.
- *Building on lessons over multiple classes/grade levels.* By referencing a previous experience in the garden, students are able to make connections, deepen their understanding, and build on skills. We use our scope and sequence document to determine how to intentionally sequence experiences and content over students' three years at King Middle School.
- *Using questions to further students' thinking.* Spark a conversation with open-ended questions that encourage students to synthesize information, draw on their experiences, brainstorm solutions to a problem, and develop their own opinions. Questions encourage students to take ownership of their learning process, rather than looking to teachers as the source of knowledge. By modeling the use of questions in academic conversations and explorations, you can help students develop their own questioning skills.
- *Asking students to make a prediction/hypothesis.* By pausing to invite



students to think about what might happen next, we allow students to practice an important scientific skill while encouraging them to develop their own ideas (and become invested in the discussion at hand).

- *Engaging in arguments from evidence.* After posing interesting questions and problems, help students practice sharing the reasoning behind their thoughts. You might collect and analyze data from the garden, develop and use a model, or draw from a hands-on experience. Encourage students to evaluate a variety of opinions using respectful conversation skills.
- *Positioning crosscutting concepts as thinking tools.* The crosscutting concepts in the NGSS can help students understand the natural world. Encourage students to identify and engage with patterns, cause and effect, systems, scale, stability and change, energy and matter, and structure and function. Model how you use these thinking tools to make meaning of the garden environment. Invite students to see how these crosscutting concepts apply across content – they’re universal!

5. We encourage students to take ownership of their learning through inquiry, exploration, and independence. We have designed the physical infrastructure and systems of the garden to enable students to wander and use the space with confidence and freedom. Similarly, we design our garden experiences to encourage exploration and student-led discovery. Building in opportunities for student choice, open-ended investigations, and time for play increases student engagement and develops the skills students need to be self-driven learners.

Specific practices include:

- *Soliciting student choice.* As often as we can, we incorporate student choice. Whether it’s selecting an exciting garden job or an interesting organism to study, allowing students the opportunity to choose establishes mutual trust, builds engagement, and develops students’ awareness of their interests and needs. During our weeklong immersions, we even use a ballot system to track student choice. This transparent voting process matches students with one of their top choices and ensures buy-in from the start.
- *Holding space for exploration and free time.* One of our students’



favorite elements of garden class is “free time.” We encourage students to explore the garden space, investigate questions that arose during class, and develop their ability to remain present and direct their own learning experience in times of independence. Outside of free time, we often include open-ended exploration time in our lessons to engage students’ curiosity and build observational skills.

- *Adopting a “Culture of Yes.”* As teachers, we aim to serve as guides to students’ educational experience. As such, when something sparks excitement in students, we support and share this enthusiasm and help students follow it as an important part of their learning process.
- *Encouraging beneficial risk.* Allowing students to engage with adventurous play gives them a chance to assess their own skills, adapt to their environment, and learn from mistakes. We encourage our students to step out of their comfort zone academically and socially, and we also give them opportunities to physically test their boundaries with wheelbarrow rides, climbing trees, and using real tools. Encouraging beneficial risk can increase students’ confidence and willingness to try new things, while also exercising their ability to reliably assess risk in their social, emotional, cognitive, and physical surroundings.
- *Using real tools.* One of our foundational principles is the importance of using and maintaining real tools with students. This sends a message that the objects in our lives are not always disposable and should be treated with care, and that we trust and expect our students to act as stewards of these communal resources. It encourages the students to think of the space as their own and develops a sense of responsibility and maturity. Students often request the opportunity to use a pickaxe, grass saw, or sledgehammer and are able to learn and practice safe and effective ways to use these real tools for the right jobs.

6. We provide opportunities for students to collaborate, lead, and develop their voice. By choosing practices that encourage students to share their thinking and work together to solve problems, teachers can create an educational environment in which every student is engaged, “student talk time” is the norm, and learning builds (and relies on) effective communication and teamwork skills.



Specific practices include:

- *Providing multiple avenues for participation within a lesson.* In addition to using multiple media to reinforce key concepts, we offer a wide range of formats for student participation throughout garden class. Between small and large-group discussions, hands-on activities, and student leadership roles, we create multiple opportunities for students to engage with the material, develop their ideas, and share their thoughts.
- *Utilizing discussion routines.* We make intentional decisions to maximize “student talk time” during garden lessons, which allows students to build their academic vocabulary, practice engaging in argument from evidence, and develop confidence in public speaking.
 - Walk and Talk: When preparing to transition to a new space in the garden, we will often ask our students to form two lines and discuss, as they walk, a topic with the person standing across from them. Then, when we arrive at our location, each pair can share out their conversation.
 - Think-Pair-Share: This routine gives students time to think of a response, discuss with a partner, and share out to the larger group. This is a great way to involve students who are more timid and avoid raising their hands even if they know the answer.
 - Whip-Around: Using a Whip-Around signals to students that each person will be expected to share in rapid succession. We pose an open-ended question to students, give them a moment to consider their responses, and then whip around the circle to hear from each student.
 - Lines of Communication: In this activity, students form two lines facing each other. We then pose a question to the students, who have an opportunity to share their answers to the person standing across from them. We then direct the students in one line to rotate in a certain direction, thus providing the students with a new conversation partner.
 - Poetic Devices: In tastings, we encourage our students to share a simile or metaphor to describe their tasting. This gives students an opportunity to practice language skills while also providing a chance for the poets in the group to shine.



- *Coordinating with the school or teacher's system for building academic vocabulary.* At King Middle School, we have a “Word of the Week” for each grade level (such as “contradiction” or “concur”). The garden team will plan out weekly strategies for incorporating this academic language into our lessons.
- *Engaging in project-based learning.* Invite your students to take on (and lead) projects in your garden space. Whether it's building new tables for your greenhouse or designing an art installation, project-based learning allows students to identify real-world problems and develop solutions. This type of learning cultivates a tremendous level of ownership by exciting and motivating students to leverage their agency as learners. Students practice communicating their ideas, designing solutions that represent the entire group's vision, and collaborating to develop the skills needed to complete their project.
- *Encouraging student leadership.* Identify opportunities for students to develop their leadership skills. If a student has already worked on a garden skill, ask her to teach her peers. For activities that students complete repeatedly, like a tasting or opening circle, invite a student to give the instructions or facilitate the conversation. Encourage a wide range of students to practice their leadership skills and help students appreciate the many ways in which leadership can manifest beyond speaking in front of a group.
- *Building social-emotional skills through teachable moments.* As a teacher, recognize moments in which you can give feedback or guidance to help students develop their awareness of self and others, ability to make responsible decisions, and communication and relationship skills.

7. We spark interest, highlight real-world connections, and share our passion. We aim to create an exciting and relevant learning environment in which we connect to the lives of our students and build community through memorable shared experiences. We believe that learning should be fun and we share our enthusiasm for the garden space in each lesson.

Specific practices include:

- *Piquing curiosity with a question or prop.* Draw students in with a thought-provoking question or a well-chosen visual aid. Consider what



your students will experience at the very beginning of a lesson (even before you speak). What are they seeing? Are they invited to explore or generate questions? How are you engaging their five senses? Creating a buzz from the start of class will build student buy-in.

- *Using food as a hook.* In general, students love to cook (and eat!). We capitalize on this culinary enthusiasm by incorporating food into lessons. Consider ways you can intentionally link food to your lesson's content.
- *Providing learning opportunities unique and authentic to an outdoor classroom.* When designing a lesson, we ask ourselves, "Could we do this indoors?" If so, we keep brainstorming to find an activity that helps students learn content in a way that meets the garden's needs and leverages the special elements of our garden space.
- *Connecting the activity to students' lives and highlighting real-world connections.* As a teacher, you have the opportunity to help students realize the "So what?" of garden class. Bring your passion and perspective. Share how the content you're learning (from grinding grain to asexually propagating plants) impacts the students and is used in the world at large. Link your lessons to current events in your community (for example, we redesigned our water conservation lesson to explicitly discuss the drought in California). Bring personal stories about farming, environmental stewardship, and working in the food system. Help students see that building skills in edible education will prepare them for a lifetime of leadership, health, community-building, and learning!