Sunday, July 9th

Time			
8:00 - 9:00	Breakfast and Registration		
9:00 - 10:30	Welcome, Organizational Culture		
10:30 - 10:45	**BREAK**		
10:45 - 12:15	How Structure Supports Learning	Kitchen Welcome Cooking	Real School Food
12:15 - 1:30	**LUNCH**		
1:30 - 3:00	Real School Food	Garden 101	Kitchen 101
3:00 - 3:30	**BREAK**		
3:30 - 5:00	Kitchen 101	Real School Food	Garden 101

Monday, July 10th

Time			
8:00 - 9:00	**BREAKFAST**		
9:00 - 10:30	A Typical Garden Class	Kitchen Culture	Farm to School &Marketing your Program
10:30 - 10:45	**BREAK**		
10:45 - 12:15	Garden Culture	Edible Education in the Kitchen	School Food Finance
12:15 - 1:30	**LUNCH**		
1:30 - 3:00	Reflect and Connect		
3:00 - 3:30	**BREAK**		
3:30 - 5:00	Practices in Edible Education	Cultivating Buy-In Through Food	Mission & Vision of your Lunch Program
5:00	Bus Leaves for City Slicker West Oakland Farm Park		
5:30 - 8:30	Dinner at City Slicker West Oakland Farm Park		

Tuesday, July 11th

Time	All tracks together in the Dining Commons
8:00 - 9:00	**BREAKFAST**
9:00 - 10:45	Open Space
10:45 - 11:15	**BREAK**
11:15 - 12:15	Ben Hunter & Joe Seamons
12:15 - 1:30	**LUNCH**
1:30 - 3:00	Team Planning & Collaboration
3:00 - 3:30	**BREAK**
3:30 - 4:30	Team Planning & Closing

Academy Staff Introductions

Edible Schoolyard Project Staff

Kyle Cornforth
Director, Edible Schoolyard Berkeley & Trainings
As an advocate for integrating education, food and life skills, Kyle has gained unique practical knowledge and experience. Through the past 14 years Kyle has worked with educational food programs in a variety of capacities; as an AmeriCorps member, garden and chef teacher, parent, program coordinator and director. From 2006 to 2009, Kyle served as Program Coordinator at the Edible Schoolyard where her responsibilities included staff management, fundraising and event planning, curriculum development and integration, design and production of collateral materials, marketing and media management, website content management, budget planning and reporting, and community outreach. In summer 2009, Kyle and her family moved to Chiang Mai, Thailand where she assumed the role of Director of the Prem Cooking and Farming Academy, a program embedded into a K-12 International School, and modeled on the Edible Schoolyard. Kyle returned to Berkeley in 2010, and is currently the Director of the Edible Schoolyard in Berkeley. She leads a staff of 10, and in the past three years has initiated and overseen the development and publication of new garden and kitchen lessons, tied to Common Core and Next Generation Science Standards, the development of Family Nights Out, growing the Edible Schoolyard Academy from 2 to 5 days, oversight of the first Edible Schoolyard Affiliate Summit, and the re-launch of edibleschoolyard.org. This year she has worked as a curriculum design specialist and consultant for Berkeley Unified School District, overseeing and facilitating the development of a comprehensive K-7 gardening program for all schools in BUSD, and has continued to encourage innovation on the edges at the Edible Schoolyard with the development of a new high school internship program and summer program in partnership with the Lawrence Hall of Science.

Hana Lee
Program Coordinator, Edible Schoolyard Berkeley
Raised by newly immigrated parents, cooking and gardening was a way of life for Hana. She fell in love with food through the simultaneously spicy, sweet, and sour flavors her mother seemed to magically conjure from their small backyard garden and kitchen. Later, Hana took her enthusiasm for food with her to UC Davis, where she majored in Sociology with an emphasis in Public Health and the US Healthcare System. Combining her personal passion for food, and academic pursuits, Hana studied the vast inequalities of the US Food system, and its impact on the health of individuals and whole communities. After graduating, Hana went into the nonprofit field, working to implement cooking and gardening programs for youth and communities of color throughout Sacramento, her hometown. Hana firmly believes that access to affordable and fresh food is a right, not a privilege, and is motivated by that in her work now as the Program Coordinator at the Edible Schoolyard. When Hana isn't talking about school lunch reform and food access, you'll find her attempting to replicate recipes from her mom's kitchen while dancing to her favorite new rap album.

Esther Cook
Head Chef Teacher
Since the Edible Schoolyard's inception in 1997, Esther has been Head Chef Teacher in the Edible Schoolyard kitchen. Over the past nineteen years, she has developed a portfolio of innovative kitchen lessons linked to classroom curriculum and life skills. Ms. Cook brought years of cooking experience to her position as founding Chef Teacher. She has worked the line in Bay Area restaurants, baked bread into the midnight hours in New Hampshire, and catered for Garden District folks in New Orleans. She has collaborated with local theater and bookbinding artists to teach cooking, book-making and storytelling to immigrant children in Oakland, her home of 30 years. While working as a line cook at Citron in Oakland, Ms. Cook also volunteered for Market Cooking for Kids – a CUESA program that linked local farms and chefs to public schools to provide hands-on cooking experiences to the students. It was the profound staying power of these interactions with youth that led her to pursue teaching cooking to children. Esther grew up on a farm in rural New England, where meals came from the garden and were shared around the table with family and friends. As an adult the quality of those times informs the experience she strives to create with her students. It is her belief that the kitchen is a natural classroom brimming with delicious educational opportunities.

Nick Lee
Chef Teacher
A native of the east bay, Nick grew up with a love of eating and cooking. Nick studied biology at Williams College in rural, western Massachusetts. There, surrounded by small organic farms producing incredible vegetables, meats, and cheeses he found himself with half a pig in the freezer and a weekly CSA box on his doorstep. After seeing the farms and people behind those foods he dove into the sustainable food movement and helped start an organic garden and food advocacy group on campus. Since graduating in 2011 he has gained professional cooking experience in restaurants in New York and the Lake Tahoe area. Nick is thrilled to be off the line and working with youth.

Griselda Cooney
Family Nights Out Coordinator / Chef Teacher
Griselda immigrated to the United States from Mexico when she was a child. She moved to a ranch in Sonoma County, and realized the new environment wasn't so different from the old home in Jalostoticlan. Her parents still planted, grew, harvested and made use of just about everything – from cactus, chili peppers and aloe to corn and tomatoes. As she grew older she came to truly appreciate the difference in taste and nutrition between homegrown and store-bought foodstuffs. As a cook, she is self-taught in American cooking and learned traditional Mexican cooking from her mother. She learned how to plan and prepare meals from humble, fresh ingredients, and to make use of everything in order to maximize flavor and minimize waste. Griselda is the mother of three and comes from a large family where cooking is shared and enjoyed by all ages, and teaching and learning in the kitchen is intertwined with all aspects of life. Griselda volunteered in the Edible Schoolyard Kitchen for five years, before joining our team as the Family Nights Out Coordinator in January 2012. In March of this year, Griselda took a full-time position as a Chef Teacher in the Edible Schoolyard Kitchen.

Molly Rose-Williams
Chef Teacher
A Berkeley native, Molly grew up a stone's throw from the Edible Schoolyard. Food has always been a very important part of her life, but it was as a sixth grade student at the Edible Schoolyard that she fell deeply in love with cooking and growing food. She worked as an assistant at the Edible Schoolyard during her 8th grade year, and continued volunteering in the kitchen throughout high school and college. She attended Middlebury College in rural Vermont, where she studied environmental studies and geography, and gleefully immersed herself in the area's vibrant sustainable food movement. While at Middlebury, she cooked in the dining hall, worked as a head chef at a student-run restaurant on campus, and managed a ¾-acre farm and industrial kitchen for the local homeless shelter's farm-to-table program. It was during her time at Middlebury that Molly also made her first serious foray into education, working for three years as a Chinese teacher for a local high school student. After graduating, she made the pilgrimage back to the Edible Schoolyard to become the 2014 ESY Plant Sale Intern. She went on to work as an outdoor educator at Slide Ranch, teach youth circus and parkour at a local circus center, dance with a physically-integrated dance company, and work as an edible gardener. Last summer, Molly joined the Edible Schoolyard Kitchen staff as a Chef Teacher. She is absolutely thrilled that her edible education has come full circle, from a student to a teacher at the Edible Schoolyard.

Geoff Palla
Garden Manager and Teacher
Geoff joined the Edible Schoolyard Berkeley team in August 2008 as the Garden Manager and Teacher, bringing over ten years of work experience on small-scale organic farms to the program. Geoff has developed his skills through a range of experiences, from observing international food systems to owning and operating his own two-acre market farm. Prior to ESYB Geoff managed the 3.5-acre culinary garden at Copia, the American Center of Wine, Food and the Arts, in Napa. The garden was a public resource for organic techniques and general garden information, offering classes and workshops. The Edible Schoolyard Berkeley is a perfect match for his investment in organic techniques, sense of humor, and his passion for teaching middle school youth.

Jason Uribe
Garden Teacher
Jason is a native to the Bay Area, having grown up in Oakland, CA and attended several community colleges in the area, focusing on Environmental Science and Urban Agriculture. After graduating high school, Jason participated in two years of AmeriCorps programming at the East Bay Conservation Corporation, where he was introduced to the concept of community service and environmental education. His love for the natural world has lead him to places like Kings Canyon National Park and Alaska, where he worked with high school students maintaining trails and teaching local ecology. While working as coordinator for the Student Conservation Association office in Oakland, CA, Jason met someone who managed a ½ acre urban garden with high school students at Berkeley Youth Alternatives (BYA), and eventually was hired to manage the program, teaching students how to grow organic vegetables, maintain a nursery, and start a CSA business. At BYA Jason realized his love for working with young people, creating opportunities to speak

out on social and injustice issues and he went off to work as the Farm Manager for People' Grocery. When Jason is not teaching middle school students about gardening at the Edible Schoolyard, he enjoys spending time with his family, reading short stories, and playing pick-up games of basketball on the weekends.

Tanya Stiller
Garden Teacher
Tanya learned to can, make preserves, fruit leather, and ferment wine while growing up on a small family farm in northeastern Oregon. As a youth, she was active in 4-H and FFA raising rabbits and sheep, and continues to help her family in the summer with their cherry orchard. Tanya's passion for plants, healing, and how people utilize plants led her to studying herbalism. She received her herbalism certificate in 1994 from The Oregon School of Herbal Medicine, ran a tincture and lotion-making company called Pixie Plants and has been teaching herbalism classes in Oregon and the Bay Area for the last 15 years. Tanya attended the University of Oregon, wrote a thesis on The Ethnobotany and Ethnomedicine of the Oregon Native American, and received her Bachelors of Science in Environmental Studies in 1998. Tanya also studied and received certifications in Nutrition and Permaculture Design. She has been teaching gardening and nutrition for the last 10 years in the SF Bay Area at public elementary and middle schools before joining the Edible Schoolyard this last year. You can also find her teaching classes on botany, seaweed harvesting, permaculture, foraging, and homesteading through the Ohlone Herbal Center and the Institute of Urban Homesteading.

Eli Mercuree Rue
Garden AmeriCorps Member
From the Bull City to the Bay, whether it be poetry, nuclear chemistry, or the healing power of plants Eli has allowed their curiosity to lead the way.

Katrina Heron
Executive Director
Katrina Heron is Executive Director of the Edible Schoolyard Project. From 2002 to 2010, Katrina served on the organization's board, promoting public awareness of improvements to healthy food access and implementation in public school meals programs. A journalist by training, she is a cofounder of Civil Eats (civileats.com) and The Food and Environment Reporting Network (thefern.org), new media nonprofits that provide independent reporting on food, health, agriculture and the environment. In 2008, as board chair of the Slow Food Nation conference in San Francisco, she produced a book showcasing California producers, *Come To The Table: The Slow Food Way of Living*, with Rodale Inc. She has frequently contributed to The New York Times and other national publications on food topics. Ms. Heron began her editing and writing career in newspapers, transitioned to magazines, and has been involved in digital media since 1995. She served as Editor-in-Chief of Wired magazine, Senior Editor at The New Yorker and Vanity Fair magazines, and Senior Editor at The New York Times Magazine. She has been an editor and writer at The Dallas Morning News, and editor-at-large for Dwell and Newsweek/The Daily Beast. Ms. Heron received her B.A. with honors from Yale.

Liza Siegler
Director of Partnerships and Engagement
Liza Siegler is the Director of Partnerships and Engagement at the Edible Schoolyard Project (ESYP). Her range of experience in the social sector includes more than a decade in social change philanthropy. At Tides Foundation, Threshold Foundation and Third Wave Foundation, she managed grant-making initiatives funding social and environmental justice movements. In 2012 she switched to the other side of the equation and joined the Edible Schoolyard Project, where she now works to develop funding partnerships that strengthen the organization's mission to change the way students learn about food in school. When she's not raising money, she's raising her nine-year-old son Theo and six-year-old daughter Margot.

Hannah Piercey
Director of the Edible Schoolyard Network
As the Director of the Edible Schoolyard Network, Hannah oversees the expansion of the ESY Network through online partnerships, mapping the growing edible education movement and building a national open source edible education curriculum. She loves connecting with educators and advocates from edible education programs around the world to share stories, best practices, and resources. Hannah was raised in Salt Lake City, Utah by a first grade teacher. She graduated from Sarah Lawrence College, with a concentration in Political Economics, and worked as a campaign field organizer, nonprofit educator, and design writer before joining the Edible Schoolyard Project in 2013.

Krissa Nichols
Operations Manager
Krissa's circuitous route to ESYP started in San Luis Obispo, CA, took her through North Carolina, the country of Niger (as a Peace Corps Volunteer), Boston, and New York before returning to California to the Bay Area. She grew up frequenting farmers' markets but only discovered that an entire world of jobs existed around sustainable food after arriving in New York and securing a spot with GrowNYC's Greenmarket program. Three years there supporting farmers and the base of the food chain cemented her desire to work for organizations that contribute to strong local food systems. Upon moving to the Bay Area, she excitedly took a position with the Edible Schoolyard Project, strengthening this local food chain from the other end, by educating youth. As Operations Manager, she keeps the wheels turning and the lights on by overseeing ESYP's financials and budgeting process, as well as supporting fund development and ESYP's trainings.

Heather Campbell
Community Manager
As Community Manager, Heather is responsible for the day-to-day management of the Edible Schoolyard Network's online community. A Bay Area native, she grew up spending warm summer days in a lush backyard garden and developed an interest in alternative education while observing her mother at work as a Special Education teacher. Heather continued those passions into college, studying Sociology and Environmental Science while leading a garden mentorship program for local K-12 students. The opportunity to be involved in education through a sustainable food lens ultimately brought her to the Edible Schoolyard Project, where she gets to indulge those interests

with educators and advocates alike every day.

Emilie Kramer
Office Manager
Emilie Kramer has been passionate about food since a young age. A Bay Area native, she grew up in Oakland where she helped her family garden, cook meals, and make wine in her father's garage. Having worked in the offices of Alice Waters's restaurant, Chez Panisse for over ten years, Emilie was further exposed to delicious, organic meals in addition to the social food movement that Alice helped create and foster, Edible Education. This inspiration took Emilie on a path to earn her Master's Degree in Holistic Nutrition and Education, from JFK University in 2013. From there, Emile had the opportunity to merge her passion for food with her passion for food education and social change. She is now managing the offices of the the Edible Schoolyard Project. Emilie has spent extended periods of time in New York City, Scotland, Italy and Peru. She earned her B.A. in Anthropology from University of California, Berkeley and has studied classical piano since the age of seven. She resides in the Temescal area, and likes to spend time with her her awesome family and their dogs.

Russell Sterten
Network Coordinator
As Network Coordinator, Russell supports Hannah and Heather in running the Edible Schoolyard Network and onboarding new members of the community. Previously, Russell worked as a substitute teacher in the Berkeley public schools where he saw first-hand the joy students had when going off to their gardening and cooking classes. He also brings a background in political organizing and is thrilled to be combining his passions for education and policy change at the Edible Schoolyard Project.

Guest Facilitators/Lecturers

Wendy Johnson
Garden Consultant, Green Gulch, Edible Schoolyard Berkeley
Wendy is a Buddhist meditation teacher and organic gardening mentor who lives in the San Francisco Bay Area. Wendy has been practicing Zen meditation for 35 years and has led meditation retreats nationwide since 1992 as an ordained lay dharma teacher in the traditions of Vietnamese teacher Thich Nhat Hanh and the San Francisco Zen Center. Wendy is one of the founders of the organic Farm and Garden Program at Green Gulch Farm Zen Center in Marin County, where she lived with her family from 1975 to 2000. She has been teaching gardening and environmental education to the public since the early 1980s. In 2000, Wendy and her husband, Peter Rudnick, received the annual Sustainable Agriculture Award from the National Ecological Farming Association. Since 1995, Wendy has written a quarterly column, "On Gardening," for Tricycle Magazine, a Buddhist review. She is the author of *Gardening at the Dragon's Gate*, a book that has distilled her lifetime of experience into an extraordinary celebration of inner and outer growth, showing how the garden cultivates the gardener even as she digs beds, heaps up compost, plants flowers and fruit trees, and harvests bushels of organic vegetables. She was honored in The Best Science and Nature Writing 2000, published by Houghton Mifflin. Wendy is a mentor and advisor to the Edible Schoolyard, a project that she has been involved in since in its inception in 1995.

Janet Levenson
Principal, Martin Luther King Jr. Middle School
Janet Levenson has been in education for 30 years as a teacher and as an administrator. Currently she is the principal of Martin Luther King, Jr. Middle School in Berkeley. She taught preschool and elementary school for 12 years and was the principal of Oxford Elementary School for 6 years. She was the professional development coordinator and co-director of the Teacher Led Technology Challenge Project, an 8-million-dollar grant that first brought computers into the classrooms in Berkeley. She is a lecturer at UC Berkeley in the Developmental Teacher Education program. Her proudest accomplishments are her work in building inclusive equitable communities in schools.

Ann Cooper
President & Founder, Chef Ann Foundation
Chef Ann Cooper is a celebrated author, chef, educator and enduring advocate for better food for all children. A graduate of the Culinary Institute of America, Ann has been a chef for 40 years, 17 of those in school food programs. She currently serves as the director of food services for the Boulder Valley School District. Known as the Renegade Lunch Lady, Ann has been honored by The National Resources Defense Council, selected as a Kellogg Food and Society Policy Fellow, and awarded an honorary doctorate from SUNY Cobleskill for her work on sustainable agriculture. In 2009, Ann founded the nonprofit Chef Ann Foundation to focus on solutions to the school food crisis. CAF's pivotal project is The Lunch Box – a web portal that provides free and accessible tools, recipes and resources to support schools transitioning to scratch-cooked meals made with whole, healthy food.

Daniel Guisti
Founder, Brigaid
With a desire to feed more people and the knowledge that chefs are uniquely suited to work within the limitations of the National School Lunch program, Chef Dan Giusti began Brigaid to change the narrative surrounding good meals for kids at school. Prior to the launch of Brigaid, Dan was the Head Chef at Noma, a world-renowned restaurant in Copenhagen, where for 4 years he contributed to the restaurant's consistent status as the best restaurant in the world. Brigaid strives to make more delicious meals for students and improve the dining experience by bringing trained chefs into the school cafeterias. Dan is a graduate of the Culinary Institute of America in Hyde Park, NY.

Laura Smith
Program and Grants Coordinator, BVSD Food Services
Laura Smith is the Program and Grants Coordinator for BVSD Food Services. She is responsible for the organization and implementation of more than 200 lunchroom education and community outreach events hosted by the School Food Project each year. Laura is also responsible for program marketing and fundraising, including grants. Laura has a B.A. in Psychology from Bates College (Lewiston, ME) and an M.P.H. in Physical Activity & Healthy Lifestyles from the Colorado School of Public Health (Ft. Collins, CO). She has a background in health promotion, health education, community outreach and volunteer coordination.

Heidi Kessler
Chief Program Officer, Chef Ann Foundation
Heidi is a passionate school food advocate who believes that school meals are essential in raising a healthier generation of children. Heidi provides visionary leadership and strategic management for the development, implementation, and evaluation of all Chef Ann Foundation programming. As a well-known trainer, speaker, and expert in environmental, policy, and systems changes that support healthy eating, Heidi has created innovative models and tools for school nutrition reform that are used across the country. She has appeared in the Wall Street Journal, Huffington Post, and NPR, and sat on expert panels for childhood obesity prevention and school food reform. Prior to joining CAF, Heidi was the Executive Director of the Smarter Lunchrooms National Office at Cornell University, and a senior leader of the nationally recognized childhood obesity prevention program, *Let's Go! 5-2-1-0*, based at the Barbara Bush Children's Hospital in Portland, Maine. Heidi has a Master of Science in Nutrition from Northeastern University and is a nationally certified School Nutrition Specialist.

Favorite school lunch: Zucchini Boats!

Favorite ways to stay healthy: I am a gardener, cook, and aspiring herbalist. I also incorporate yoga, meditation, and Ayurveda into my daily life to channel my energy into making the world a better place.

Brandy Dreibelbis
Chef, District Manager, School Food Project for the Boulder Valley School District
She received her B.S. in Hotel, Restaurant, Tourism Management from East Stroudsburg University and her Culinary Arts degree from Culinary School of the Rockies. Brandy is the former Executive Chef of the flagship Whole Foods Market Pearl Street in Boulder, Colorado. Prior to moving to Colorado, Brandy was the Executive Chef of the award winning Blue Moon Restaurant in Rehoboth Beach, Delaware. The School Food Project at Boulder Valley School District is one of the top rated school lunch programs in the country. Each day Brandy oversees the production of thousands of meals in the Boulder Valley School District, produced from 3 regional kitchens. Brandy also runs a very active catering department designed to showcase the School Food Project's elite food. She has also spearheaded Boulder Valley School
District's endeavor to acquire a food truck and formed partnerships with local business support to create a progressive food truck program for the school district. Brandy is committed to creating a model healthy school lunch program and is an advocate for healthy food for school children.

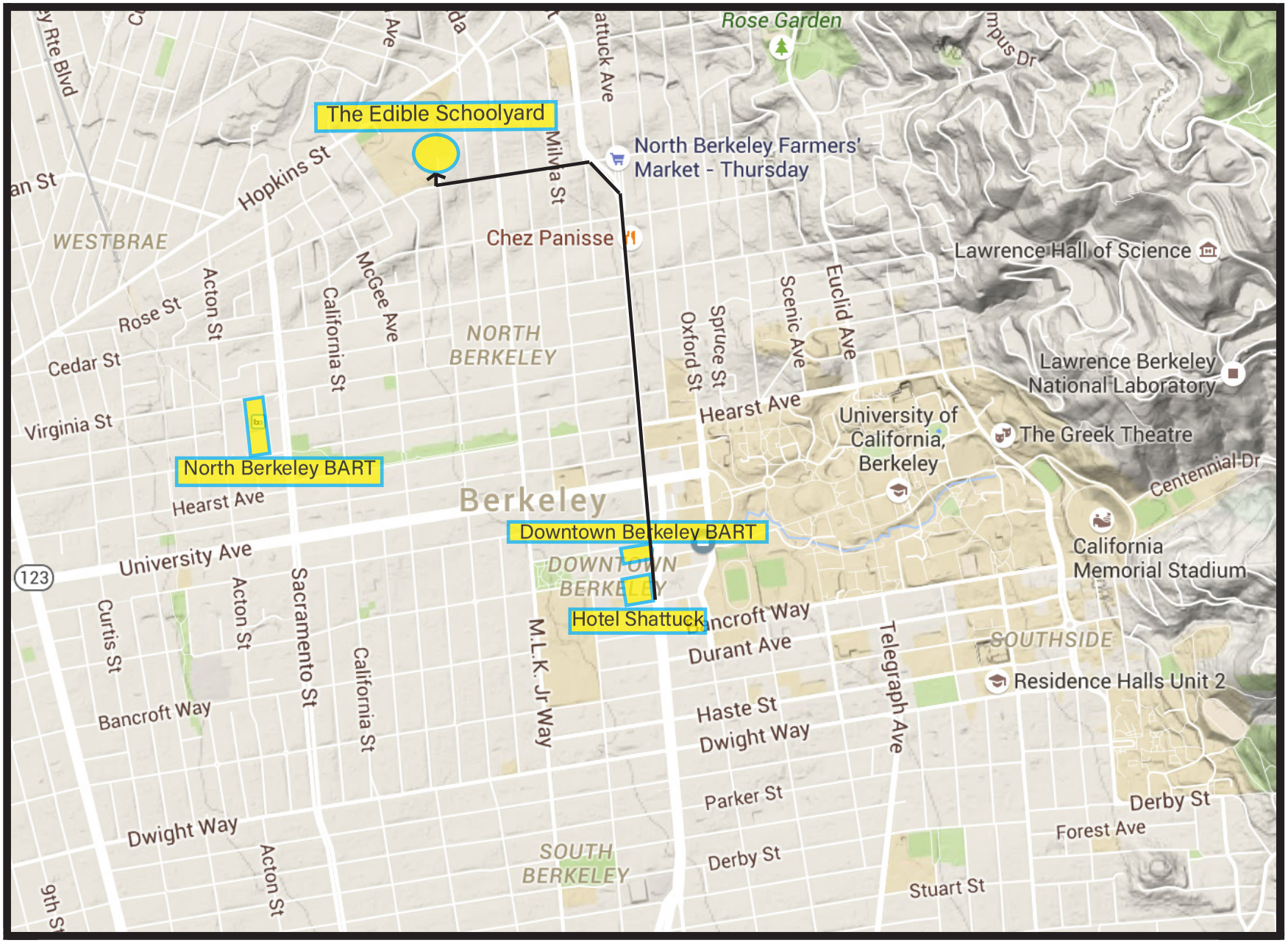
Amy Glodde RD, MPH
Menu Planner & Training Supervisor, Oakland Unified School District
Amy Glodde has worked for Oakland Unified School District since 2008 as the Menu Planner and Training Supervisor. Farm to School Supervisor. Before coming to Oakland, Amy worked as a Public Health Nutritionist for the Alameda County Department of Public Health. Amy graduated from Ohio University in 1998 and also holds an Masters in Public Health from San Jose State University.

Things to do while you're in town!

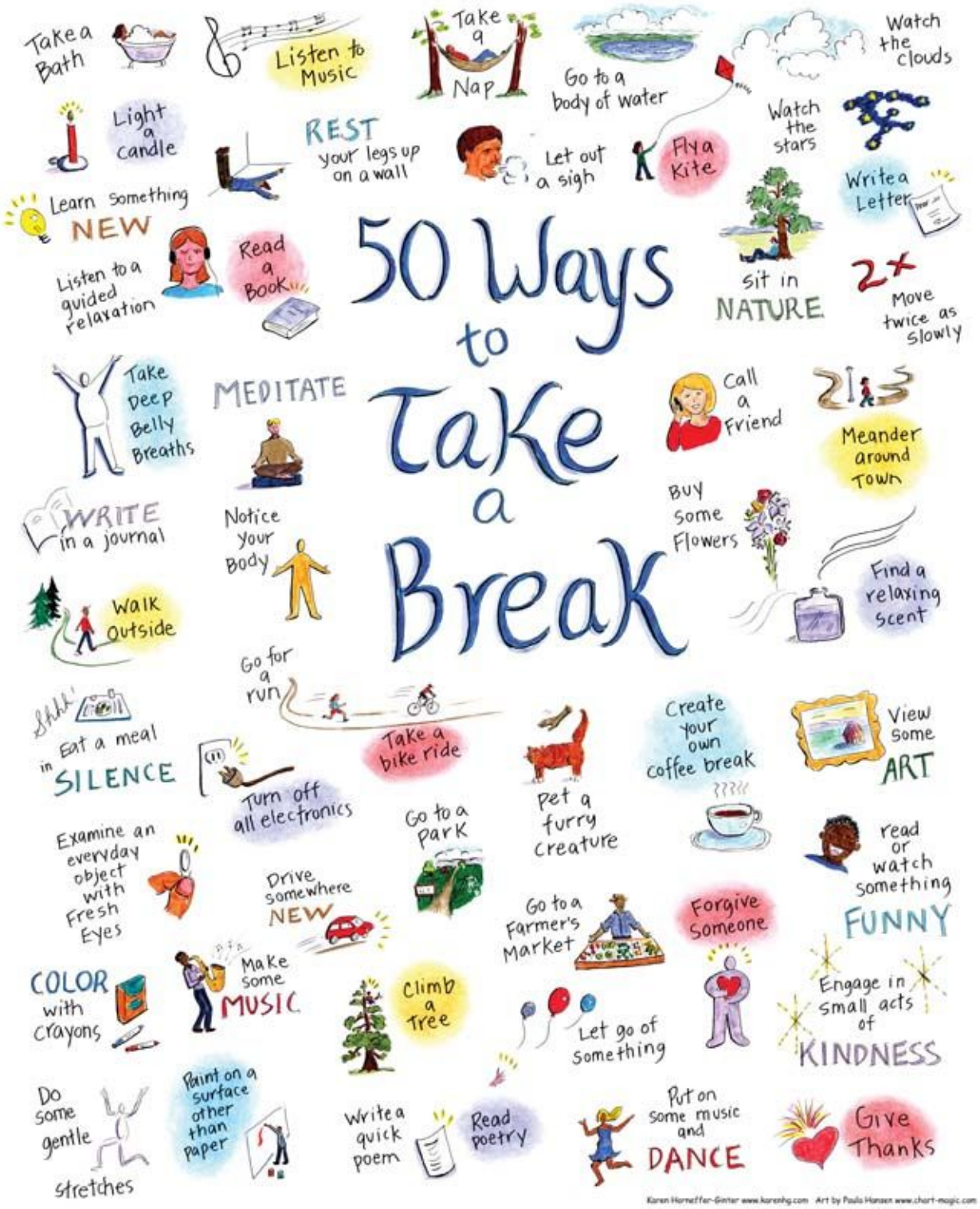
Eat & Drink	Address	Phone
Berkeley:		
Bartavelle Café	1604 San Pablo Avenue, Berkeley	(510) 524-2473
Casa de Chocolates	2629 Ashby Avenue, Berkeley	(510) 859-7221
Chez Panisse Restaurant and Café	1517 Shattuck Avenue, Berkeley	(510) 548-5049
Comal	2020 Shattuck Avenue, Berkeley	(510) 926-6300
Gather Restaurant	2200 Oxford Street, Berkeley	(510) 809-0400
Gecko Gecko Thai	2102 Milvia Street, Berkeley	(510) 665-4811
Herbivore ⓥ	2451 Shattuck Avenue, Berkeley	(510) 665-1675
Fieldwork Brewing Company	1160 6th Street, Berkeley	(510) 898-1203
Ici Ice Cream	2948 College Avenue, Berkeley	(510) 665-6054
Ippuku	2130 Center Street, Berkeley	(510) 665-1969
Jupiter	2181 Shattuck Avenue, Berkeley	(510) 843-8277
Revival Bar and Kitchen	2102 Shattuck Avenue, Berkeley	(510) 549-9950
Saturn Café ⓥ	2175 Allston Way, Berkeley	(510) 845-8505
Vik's Chaat Corner	2390 Fourth Street, Berkeley	(510) 644-4432
Oakland:		
Ensarro Ethiopian	366 Grand Avenue, Oakland	(510) 238-9050
Mua	2442 Webster Street, Oakland	(510) 238-1100
Room 389 Cocktail Lounge	389 Grand Avenue, Oakland	(510) 936-6389
The Trappist	460 8th Street, Oakland	(510) 238-8900

ⓥ Vegan Friendly

See & Do	Address	Phone
Berkeley:		
Berkeley Farmers' Markets	-S. Berkeley @ Adeline St. (Tue) -Shattuck Avenue @ Rose St. (Th)	(510) 548-3333
Lake Anza	Berkeley	
Hike Claremont Canyon	Berkeley	
UC Berkeley Botanical Garden	200 Centennial Drive, Berkeley	(510) 643-2755
Oakland:		
Walk Lake Merritt	Lake Merritt, Oakland	
Oakland Museum of California	1000 Oak Street, Oakland	(510) 318-8400
The New Parkway Theater	474 24th Street, Oakland	(510) 658-7900
San Francisco:		
After Dark at the Exploratorium	Pier 15, San Francisco	(415) 528-4444
California Academy of Sciences	Golden Gate Park, San Francisco	(415) 379-8000
Golden Gate Park	San Francisco	(415) 831-2700
Hike Land's End	680 Point Lobos Ave, San Francisco	
The Asian Art Museum	200 Larkin St, San Francisco	(415)581-3500
The Ferry Building Marketplace	The Embarcadero, San Francisco	(415) 983-8030



Downtown Berkeley


50 Ways to Take a Break
Take a Bath
Listen to Music
Take a Nap
Go to a body of water
Watch the clouds
Light a candle
REST your legs up on a wall
Let out a sigh
Fly a Kite
Watch the stars
Write a Letter
Learn Something NEW
Listen to a guided relaxation
Read a Book
sit in NATURE
2x Move twice as slowly
Take Deep Belly Breaths
MEDITATE
Call a Friend
Meander around Town
WRITE in a journal
Notice your Body
Buy some Flowers
Find a relaxing scent
Walk Outside
Go for a run
Take a bike ride
Eat a meal in SILENCE
Turn off all electronics
Pet a furry creature
Create your own coffee break
View some ART
Examine an everyday object with Fresh Eyes
Go to a Park
read or watch something FUNNY
Drive somewhere NEW
Go to a Farmer's Market
Forgive Someone
COLOR with crayons
Make some MUSIC
Climb a Tree
Let go of Something
Engage in small acts of KINDNESS
Do some gentle stretches
Paint on a surface other than paper
Write a quick poem
Read poetry
Put on some music and DANCE
Give Thanks
Karen Horneffer-Ginter www.karenhg.com Art by Paula Hansen www.chart-magic.com

Edible Schoolyard Infrastructures and Systems

Summary
One of the most exciting aspects of designing a structure or open space is thinking about the user experience, in this case our students. We believe there is an interplay between what you build and why you build it and how the students will interact with it. In the Edible Schoolyard garden, we have created systems and built structures in collaboration with handymen, artists, and students that lend themselves well to explorative learning.

Ramada
The Ramada is the central meeting place for beginning and ending each garden class. The 20-foot diameter web-like wooden structure is laced with deciduous kiwis that climb up the sides and canopy over the top, proving shade in the summer months and a feeling of intimacy and enclosure within the larger open space of the garden. Straw bales around the circumference provide over 30 seats – enough for all the students, teachers, and volunteers in our typical garden class. The circular space allows for group discussions, demonstrations, tastings and games. In the Ramada, students are held to the same behavioral expectations as in the classroom (i.e. raised hands and one voice in circle).

Irrigation
We primarily use drip-line in our annual beds, most of our perennial beds and our orchards. In addition, we use a variety of sprinklers, including motion sensors, to water area that are not on drip-line. We've chosen not to use timed-irrigation so that we are more directly involved in checking to see when an area of the garden needs irrigation.

Greenhouse
Our greenhouse is built with a simple 2x4 wooden frame and salvaged windows. The greenhouse allows garden teachers and students to propagate plants for the Edible Schoolyard garden, the annual plant sale, and donations for other local garden programs. In the greenhouse, we teach students how to propagate by sowing seeds, using cuttings or grafting, or by dividing. We irrigate our starts by hand during the week, and with a sprinkler system on automatic timer over holidays or warm weekends.

Soil Bins
The soil bins store potting mix ingredients and finished mixes, including finished sifted compost, sand, and basic potting soil that we use in propagation.

Compost Row
At Compost Row we compost both garden scraps and food scraps from the edible row of

free-standing compost piles at different stages of decomposition in the back end of the Edible Schoolyard garden. Compost piles are turned down compost row in the direction of least-to-most decomposed. The free-standing system allows students to comfortably stand around the compost and turn the piles together as a group. Students are able to observe the different stages of decomposition from pile to pile. At Com
Other methods of composting that we employ at the Edible Schoolyard include:
Vermicompost: worm bin
No fuss: a cylindrical wire frame that we fill with raked up leaves. The leaves slowly decompose on their own with no turning.

Worm Bin
The worm bins, located behind our outdoor kitchen, are wooden bins used for decomposing food scraps.

- Students learn about the importance of worms as decomposers and harvest worm castings.
- Worm castings are incorporated into our soil mixes for propagation and used to make compost tea.
- We intentionally have worm bins near our Outdoor Kitchen for easy access to composting food scraps.

Chicken Coop
In the Edible Schoolyard program, the presence of chickens and ducks has fostered a nurturing spirit within the student body and added tremendously to student buy-in.

- The capacity of the chicken coop in the Edible Schoolyard is about 30 birds.
- Garden teachers integrate chicken time into garden classes as much as possible to practice appropriate chicken handling.
- Students are encouraged to check for eggs before school, after school, and during garden class.
- Students use baskets hanging in the tool shed to collect eggs. They deliver the eggs to the kitchen classroom with the date of collection.
- Kitchen classes incorporate garden eggs into recipes whenever possible.
- Garden teachers encourage students to move the chicken tractor to garden beds as part of cultivating.
    - The chicken tractor is a small mobile coop that is used to concentrate beneficial chicken scratching, consumption of weeds and insects, and fertilization.

Tool Shed
We have set up the tool shed at the Edible Schoolyard to be straightforward and easy for students to navigate.

- Students learn in their first garden class that one side of the tool shed has “adult

tools," meaning that they need to ask an adult first before using.
- On the student side of the tool shed, all tool categories are clearly labeled and open to use.
- All tools that belong in the tool shed display yellow tape while tools that belong on the outdoor tool racks display red tape.
- Students are encouraged to come up with the appropriate tools for their garden job and select them from the tool shed.
- The tool cleaning station is located adjacent to the tool shed. After every garden class, students clean their tools in barrels of linseed oil and sand.
- You can find a comprehensive list of the tool shed's contents in the *Tool Shed Contents* take home from this ("Infrastructure and Systems") session.

Rainwater Catchment System

The gutters on both sides of the tool shed connect to catchment tanks that allow us to capture hundreds of gallons of un-chlorinated water every time it rains.
- This system was made possible through a grant from the Alameda Countywide Clean Water Program.
- Students learn about water conservation by using water from the catchment tanks to water plants in the garden.
- Catchment tanks are located above the apple orchard to irrigate the hillside area when possible.

Wood-Fired Oven

The wood-fired oven – built of stones, bricks and mortar – provides a great way to incorporate cooking in the garden.
- Ideally, we use the oven with each grade level. For example:
    - Roasting potatoes
    - Roasting beets
    - Roasting carrots
    - Making pizza

Outdoor Kitchen

The outdoor kitchen provides a covered space with sinks in the garden, shielded from the sun and rain.
- The covered space is large enough for 10-12 students
- Adjacent to the outdoor kitchen is our Long Table. We gather here with students for a myriad of activities, most notably to sit and have our seasonal final tastings together.
- The location of our outdoor kitchen is near a building that can supply us with electricity, which allows us to run an extension cord to power our induction burner, and any other electrical tools we may want to use.
- Students built a constructed wetland to receive the water from the sinks. We refer

to this as our greywater basin. The plants in this wetland absorb and filter the greywater before it goes into the garden.

- We use the covered space for:
    - Processing the harvest
    - Preparing the tasting
    - Making flower bouquets
    - Microscope lab
    - Cacao station in "The Civilizations of the Americas" humanities walk
    - Afterschool class meet-ups and snacks

Pond

The pond provides a calming place in the garden for students and teachers alike to enjoy while also adding a unique ecosystem to explore.

- A solar-powered waterfall cascades into small pools that fill the pond with water.
- Aquatic plants vegetate the pond and perimeter.
- The ducks love playing and bathing in the pond.
- Fish living in the pond eat any mosquito larvae that try to grow.

Beehive

The beehive, secluded on the hillside of the garden, is used to teach students about the importance of pollinators and adds to the overall fertility of the garden.

- Students visit the hive as part of their 6th grade Bees in the Garden lesson.
- Students built exterior fencing to protect the hive, while local beekeepers built and maintain the hive itself.
- For more information on the beehive, please refer to the *Severe Allergic Reaction and Bee Sting Action Plan* and *Bee Email to Community* take homes in this section "Infrastructure and Systems" session.

Orchards

The orchards are special places where we are using fruit trees to landscape areas of the campus. The fruit is harvested and used in the kitchen classroom or garden lessons whenever possible.

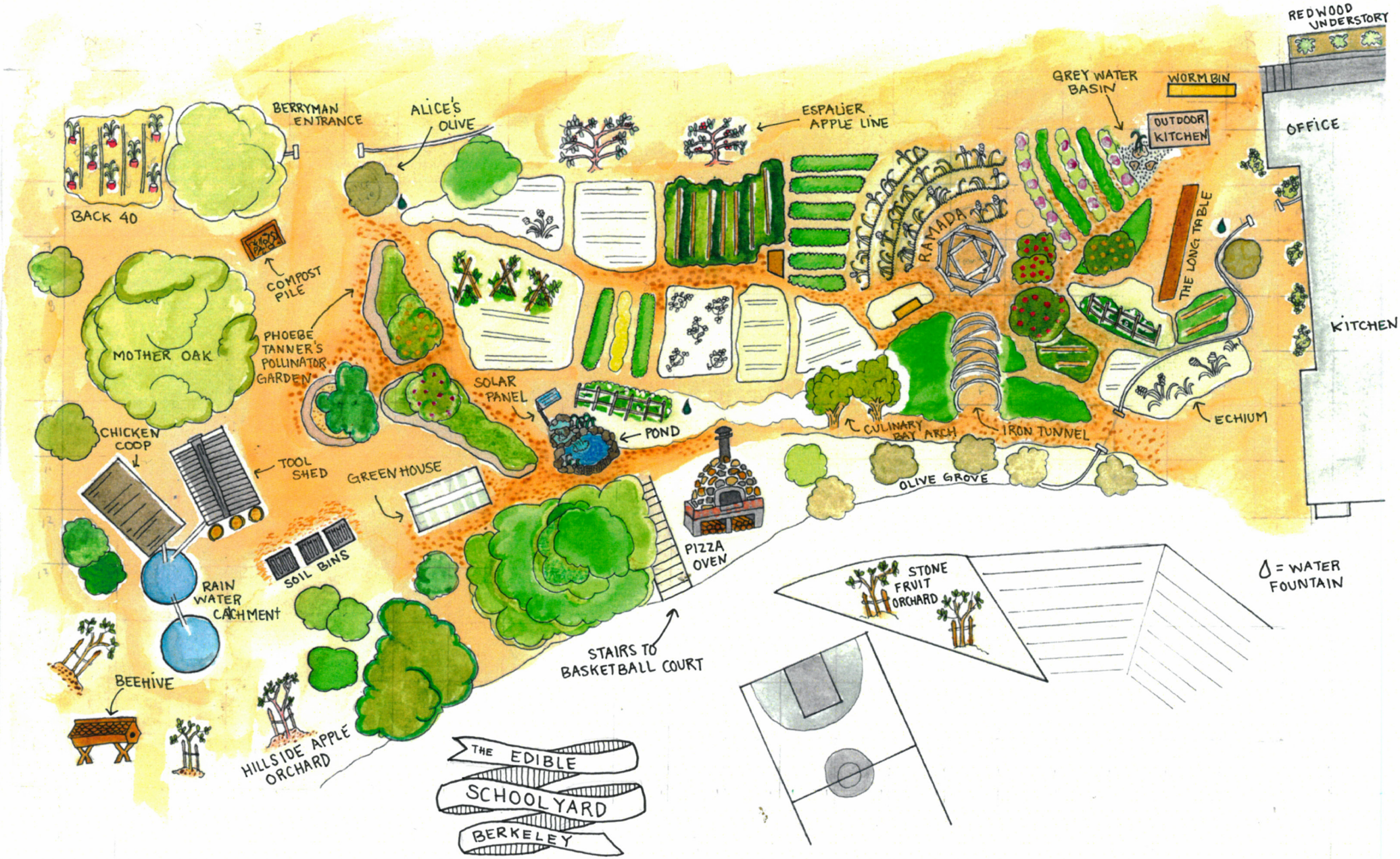
- The Hillside Orchard is comprised of over 30 fruit and nut trees. The terracing of the hillside is maintained and improved each year with students studying 'The Civilizations of the Americas," in which they learn how ancient civilizations used terraces to cultivate otherwise unusable land.
    - In the 7th grade Permaculture tract students build swales—which are ditches dug along the contour of a slope, to collect rainwater on-site, thereby reducing the need to irrigate the orchards. The swales also help prevent erosion and usually can store enough rainwater to the point of saturation, allowing the orchard trees to be independent of irrigation.
- The Triangle Orchard was a forgotten triangle of land between a service road and

the outdoor basketball courts, where we planted 9 trees of various stone fruit varieties. The orchard will soon provide some much-needed shade for players on the blacktop.

Perimeter Fence

Our newest structure is for more than making just good neighbors.

- Originally built with the intention of keeping deer out of the garden and consuming all the food we've grown. Doubling as a Good Agricultural Practice, to keep not just the animals out, but also contaminants that may come with them.
- We're able to use the fence as a structure to trellis peas and other vining crops along.
- Chose an open-air style fence that doesn't obstruct any views particularly important on a school campus where visibility is vital.


REDWOOD UNDERSTORY
GREY WATER BASIN
WORM BIN
OUTDOOR KITCHEN
OFFICE
BERRYMAN ENTRANCE
ALICE'S OLIVE
ESPALIER APPLE LINE
BACK 40
COMPOST PILE
RAMADA
THE LONG TABLE
KITCHEN
MOTHER OAK
PHOEBE TANNER'S POLLINATOR GARDEN
SOLAR PANEL
POND
CULINARY BAY ARCH
IRON TUNNEL
ECHIUM
CHICKEN COOP
TOOL SHED
GREEN HOUSE
OLIVE GROVE
PIZZA OVEN
SOIL BINS
RAIN WATER CATCHMENT
STONE FRUIT ORCHARD
= WATER FOUNTAIN
BEEHIVE
STAIRS TO BASKETBALL COURT
HILLSIDE APPLE ORCHARD
THE EDIBLE SCHOOLYARD BERKELEY

Tool Shed Contents

Working with tools is an essential aspect of every student's experience at the Edible Schoolyard. Students are introduced to tool safety in their classrooms before they come out to the garden, and then they are given a tool shed orientation during their first garden class. Below is a list of tools we find essential to run a successful garden program, along with a list of optional tools we find useful to run a large middle school (or high school to adult) program. Choose the tools from the optional list that will be best suited to your program.

Essentials in the ESY Tool Shed

- Hand-cultivation tools like trowels
- Rakes (T and fan)
- Spaded forks
- Shovels (flat, round, snow)
- Clippers
- Loppers
- Gloves
- Harvesting baskets and crates
- Buckets
- Sturdy wheelbarrow
- Broom
- Hoses
- Watering cans
- Trashcan with lid
- Saws (pruning, bamboo, grass and carpentry)
- Basic carpentry/plumbing tools (hammers, pliers, wrenches, screwdrivers)
- Basic carpentry/plumbing hardware (nails, screws, nuts, bolts, tape, staples, replacement fittings, valves, heads, etc.)
- Wire
- Twine and rope
- Wooden stakes
- Organic soil amendments (rock phosphate, bone meal, kelp meal, gypsum, oyster shell)
- Bamboo (for structures, trellising, fencing, stakes)

Optional

- Pitchforks
- Hoes
- Sledgehammers
- Pick axes
- Fence post pounder
- Sprinklers
- Watering wands
- Egg baskets
- Compost thermometer
- Greenhouse aprons
- Crowbar
- Sunscreen
- Rubber pads (for seating on wet days)
- Ponchos or rain jackets
- Rubber boots
- Screens (for winnowing amaranth and other grains)

- Bowls (for seed saving, winnowing)
- Wire brushes
- Plastic scrapers
- Linseed oil (to be added to sand for tool cleaning)
- Liquid Fence (deer repellent)
- Backpack sprayer (for foliar feeding)
- Rubbing alcohol (for cleaning pruning tools)
- Mower
- Weed whacker
- Rototiller
- Gasoline
- Ladders (including tri-pod orchard ladder for harvesting/pruning fruit trees)
- Large umbrellas with stands

Edible Schoolyard Garden Classroom
6th Grade Scope and Sequence

ROTATION 1						
Lesson #	Lesson Name / Opening Activity	Main Focus	Closing Activity	Produce	ESY Standard	Academic Standards
G6 – 0	Respect in the Garden In academic classroom	Setting behavior expectations	Students ask questions about the garden		Edible Schoolyard 1.0 In the Program: Techniques 2.7: Students follow a set of rituals and routines that help work go smoothly and develop into lifelong habits	BUSD's Behavioral Expectations ● Be safe ● Be respectful ● Be responsible ● Be an ally
G6 – 1	Garden Orientation / Card Hike	Meet staff, learn routines and systems	White board questions & conversation		Edible Schoolyard 1.0 In the Program: Concepts 3.9: Notice and appreciate beauty. We take ownership in pleasing and awakening our senses to communicate care and value, because beauty can deliver a message of optimism and expectation without saying a word.	Common Core: comprehension and collaboration grade 6
G6 – 2	Garden Work	Review "Respect in Garden," emphasize systems/ tool shed orientation	Tasting		Edible Schoolyard 3.0 In the Garden, grade 6: Tools 1.1: Identify, begin to use, and care for basic garden tools. Techniques 2.3: Decomposition	Common Core: comprehension and collaboration grade 6

Edible Schoolyard Garden Classroom
6th Grade Scope and Sequence

					Techniques 2.4: Harvest Techniques 2.5: Cultivation Techniques 2.6: Propagation	
G6 – 3	Compost Lab	Big ideas unit, cycles of matter, FBI	Tasting		Edible Schoolyard 3.0 In the Garden, grade 6: Techniques 2.3: Observe fungus, bacteria, and invertebrates in decomposition;	California State Standards: Ecology 6.5.b: Students know matter is transferred over time from one organism to others in the food web and between organisms and the physical environment.
G6-4	Bees	Native pollinators, Bee hive exploration			Edible Schoolyard 3.0 In the Garden, grade 6: Concepts 3.9: Observe the garden as a habitat for pollinators, understand the impact for pollination on our food supply, develop appropriate responses to them, and consider the multitude of habits throughout the garden.	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. Clarification Statement: probability of plant reproduction could include transferring pollen or seeds. MS-LS1-5: Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms. Clarification statement: Examples of local environmental conditions could include availability of food, light, space, and water.

Edible Schoolyard Garden Classroom
6th Grade Scope and Sequence

G6 – 5	Garden Work	Garden work	Tasting		Edible Schoolyard 3.0 In the Garden, grade 6: Tools 1.1: Identify, begin to use, and care for basic garden tools. Techniques 2.3: Decomposition Techniques 2.4: Harvest Techniques 2.5: Cultivation Techniques 2.6: Propagation	Common Core: comprehension and collaboration grade 6
G6 – 6	Greenhouse Lab	Energy and heat	TBD		TBD	California State Standards: Ecology 6.5.a: Students know energy entering ecosystems as sunlight is transferred by producers into chemical energy through photosynthesis and then from organism to organism through food webs.
G6 – 7	Apple Cider	Seasonality, volume and displacement (as it relates to melting polar ice), and ratios (with press gears)	Cider tasting	20 lbs of apples per class 220 lbs total	Edible Schoolyard 1.0 In the Program: Concepts 3.11: Understand seasonality by recognizing and enjoying foods at their peak of flavor and ripeness. 3.0 In the Garden, grade 6: Techniques 2.4: Harvest and prepare crops with guidance, recognize the relationship between the kitchen and the garden, and	California State Standards: Number Sense 6.1.1: Write and solve one-step linear equations in one variable

Edible Schoolyard Garden Classroom
6th Grade Scope and Sequence

					learn the seed to table concept.	

ROTATION 2						
Lesson #	Lesson Name / Opening Activity	Main Focus	Closing Activity	Produce	ESY Standard	Academic Standards
G6 – 8	Welcome Back / Discussion of Seasonality / Re-Orientation	Seasonality, garden work	Identify one thing that has changed in the garden – tell your garden name		Edible Schoolyard 1.0 In the Program: Concepts 3.11: Understand seasonality by recognizing and enjoying foods at their peak of flavor and ripeness.	Common Core: Grade 6, Comprehension and collaboration
G6 – 9	Garden Work	Garden work	Tasting		Edible Schoolyard 3.0 In the Garden Techniques 2.3: Decomposition Techniques 2.4: Harvest Techniques 2.5: Cultivation Techniques 2.6: Propagation	Common Core: comprehension and collaboration grade 6
G6 – 10	Garden Work	Garden work	Tasting		Edible Schoolyard 3.0 In the Garden Techniques 2.3: Decomposition Techniques 2.4: Harvest Techniques 2.5: Cultivation Techniques 2.6: Propagation	Common Core: comprehension and collaboration grade 6
G6 – 11	Flower Discovery	Structure and Function of a	Tasting		**Edible Schoolyard 3.0 In the Garden, grade 7: Concepts 3.9:** Observe the garden as	

Edible Schoolyard Garden Classroom
6th Grade Scope and Sequence

		Flower			a habitat for pollinators, understand the impact of pollination on our food supply, develop appropriate responses to them, and consider the multitude of habitats throughout the garden.	
G6 – 12	Garden Work/Kale Pesto	Final celebration	Tasting of kale pesto on baguette and lemonade Students sit at the long table for closing circle and enjoy eating together	Per class: 5 baguettes, tripled kitchen lemonade recipe, doubled kitchen kale pesto recipe	<u>Edible Schoolyard 3.0 In the Garden, grade 6:</u> Techniques 2.3: Decomposition Techniques 2.4: Harvest Techniques 2.5: Cultivation Techniques 2.6: Propagation	<u>Common Core:</u> Comprehension and collaboration grade 6

A Typical Edible Schoolyard Garden Class

Summary
A typical garden class with 6th graders at the Edible Schoolyard is 86 minutes (1 hour and 26 minutes) and is divided into three main parts: Opening Circle, In the Field (work time), and Closing Circle. In the garden, we have integrated rituals and routines into every garden class so that students know what to expect and what is expected of them when they arrive to the garden. Students arrive to the garden and gather in the Ramada.

Opening Circle (7-12 minutes)
We use the opening circle to welcome students and frame the garden class. Garden teachers rotate the role of facilitating circle.

1. Introduce the day's activity or lesson.
2. Focus attention to the job board and exhibit team teaching.
    a. From his/her seat in the circle, each garden teacher gives a brief description of the garden job he/she will be teaching. The brief description of the garden job facilitates student buy-in by allowing students to pick the garden job that interests them the most.
3. Introduce the closing circle activity so that students are prepared upon returning to circle.
4. Divide into working groups.

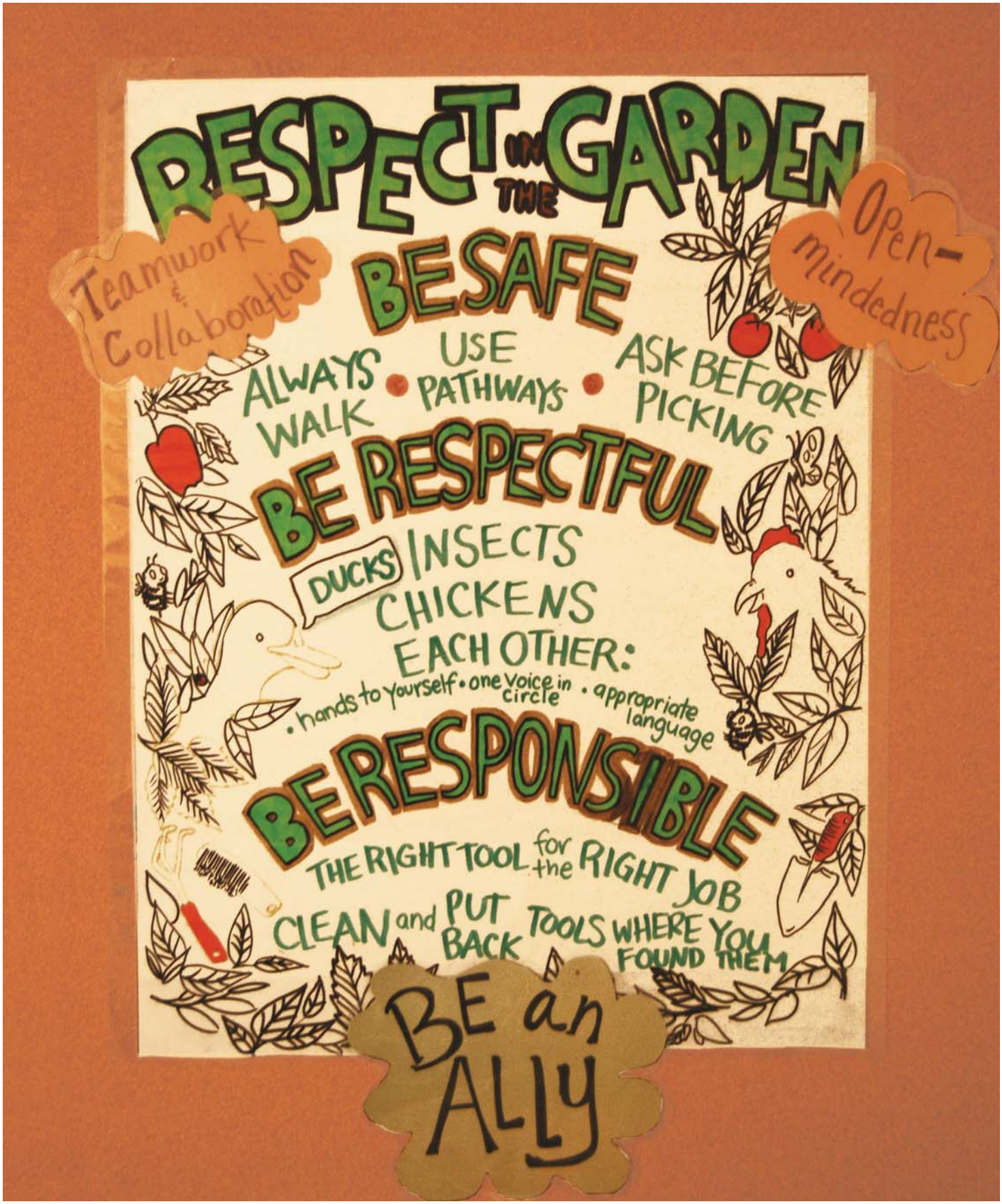
In the Field (average of 45 minutes)
After opening circle, students break up into four working groups. Each group has an average of 6-8 students and one garden teacher.

1. Check in and review garden job at job site.
    a. Have each student answer a "check-in" question.
        i. Check-in questions should be provocative and fun and may not have anything to do with gardening.
        ii. These questions can relate to the lesson or theme of the day.
    b. Break down the steps to executing the garden job and have students identify the necessary tools before going to tool shed.
2. Work together on your garden job. For more information, see the *Edible Schoolyard Garden Jobs* take home from this ("A Typical Garden Class") session.
3. Integrate student buy-in by taking short breaks for chicken time and foraging.

Closing Circle (between 10-15 minutes depending on method of delivering content)

We use closing circle in the garden to conclude the garden class with an assessment or activity.

- Tastings are the most common closing circle activity:
    - Each student shares his/her name and, dependent on grade level, provides either an observation or a simile based on his/her tasting.
        - 6th Grade: Students draw on their five senses to make an observation of the fruit or vegetable that is being tasted.
            - Example: My name is _____ and my apple was sweet.
        - 7th and 8th Grade: Students draw on their five senses to create a simile about the tasting.
            - Example: My name is _____ and my apple was sweet like honey.
    - Seasonal tastings are picked from the garden.
        - Some examples include apples, soft herbs, turnips, radishes, carrots, asparagus, kiwi, sorrel, etc.
- Report Backs
    - Each working group updates the class on their respective garden job. A representative of each group:
        - Describes the garden job
        - Notes the progression of the garden job
            - Example: We finished cultivating the bed and it is ready for planting.
        - Explains how the garden job contributes to the garden at large
- For more information on the other creative assessments we use in closing circle, please refer to the *Common Garden Assessments* take home from the "Creative Assessments" session.


RESPECT IN THE GARDEN
Teamwork & Collaboration
Open-mindedness
BE SAFE
ALWAYS WALK
USE PATHWAYS
ASK BEFORE PICKING
BE RESPECTFUL
DUCKS
INSECTS
CHICKENS
EACH OTHER:
• hands to yourself • one voice in circle • appropriate language
BE RESPONSIBLE
THE RIGHT TOOL for the RIGHT JOB
CLEAN and PUT BACK TOOLS WHERE YOU FOUND THEM
BE an ALLY

Edible Schoolyard Garden Jobs

Summary
In the garden program at the Edible Schoolyard, we emphasize four main skills as the foundation for maintaining a healthy garden and incorporate jobs into every garden class that appeal to the diverse interests and energy levels of our students.

In determining the garden jobs, we consider three main factors:

- Can many hands complete the task? We strive to offer jobs that an entire group of 6 to 10 students can be involved in for an entire working period.
- Is the task authentic to the needs of the garden? Similar to the pedagogy behind empowering students with real tools, we present real jobs that give students gardening skills they can work towards mastering over their three years as well as truly maintaining the space. Four of our most common and authentic jobs that students master and that we will participate in today are: harvesting, propagating, composting, and cultivating
- Do the tasks appeal to the diverse interests and energy levels of our students? In every garden class we present a variety of jobs that appeal to all students. For example students with incredibly high energy will thrive in more physical jobs or artistic students love a job in which they can spend the working period painting colorful signs for the garden beds.

In considering these factors, we are able to be intentional about presenting jobs that engage every student in our vastly diverse student body. As part of opening circle, garden teachers each give a brief description of the garden job he or she will be leading. This ritual encourages students to volunteer for the garden job that appeals most to him or her with open-mindedness and gives garden teachers an opportunity to co-teach.

Composting

- Gather at the compost pile for a check-in. Review the job (sifting, turning or building) and, with student input, describe the appropriate tools needed to complete the job.
- General teaching points about compost:
    - FBI (fungus, bacteria, invertebrates): What is their role and why do they need to be plentiful in your compost pile? (Answer: The FBI are decomposers and they need to be plentiful to decompose the compost quickly.)
    - What do FBI need to survive? (Answer: Food, air and water.)
    - Importance of heat as a measure of decomposition: What does heat signify? (Answer: Active, healthy bacteria populations.)
    - Rate of decomposition: What materials break down quickly and which take

the longest? (Answer: Nitrogen-rich materials, like food scraps, decompose quickly, while woody, carbon-rich materials, like tree branches, take much longer.)

- Gather necessary tools from tool shed and take back to compost row.

Build Pile

- Tools: pitch forks, rakes, shovels
- Prior to class, separate compost ingredients into piles of browns, greens, and food scraps.
- Have students hammer in stakes to mark the four corners of the pile, approx 3′ x 5′.
- Begin the compost pile by spreading out your coarsest material for the foundation layer. (It's important to provide as much air as possible at the bottom of the pile).
- Begin alternating layers of browns and the greens on the pile with the food scraps trickled in.
- Water each layer as it goes on.
- General teaching points for building a compost pile:
    - Review the necessary components to achieve a hot pile with happy decomposers (i.e. browns, greens, manure [optional], food scraps, water and air). Explain that bacteria are largely responsible for generating the heat of the compost pile through their body heat and digestion.
    - What elements do our browns, greens, and food scraps give us? (Answer: Browns give carbon and greens/food scraps give nitrogen.)
    - Can you identify the compost ingredients? (Answer: Different food scraps and weeds [greens], straw and leaves [browns].)
    - Students can also use the thermometers to compare the temperature of the different piles.

Turn Piles

- Tools: pitch forks
- Piles should be turned down Compost Row towards the back of the garden one by one beginning with the oldest.
- Have students hammer in stakes to mark the four corners of the pile, approx 3′ x 5′.
- Have students spread out around the pile and begin turning the pile over into the new staked-out area.
- While some students are turning over the compost, have others flatten out the pile as it's being made to build something that resembles a bread loaf and not a cone.
- Water the pile as it's being turned.
- General teaching points for turning a compost pile:
    - Review the purpose of turning a pile:
        - FBI need air and water to live.
        - Turning the pile reduces its smell by adding oxygen.
    - While turning, ask students to identify any visible FBI members.

- Invite students to observe the different piles and stages of decomposition.
- Have students use thermometers to compare the temperature of the different piles.

Sift Pile

- Tools: wheelbarrows, sifters, shovels
- Three students work together to sift compost over a wheelbarrow: two hold either end of the sifter and rock back and forth while the third loads the compost onto the sifter screen.
- Large clods and twigs that do not fall through the sifter should be put into a separate wheelbarrow and then carried back to the first compost pile in the row (to be folded back into a new pile).
- Finished, sifted compost should be stored in one of the soil bins.
- General teaching points for sifting finished compost:
  - Ask students to observe which materials take the longest to break down.
  - Review the role of finished compost in feeding our beds and soil mixes with nutrients and microorganisms.

Cultivating

- Gather at the to-be-cultivated garden bed for a check-in. Review the job and, with student input, describe the appropriate tools needed to complete the job.
- Gather necessary tools from tool shed (roughly half shovels, half forks, with one rake) and return to the garden bed to be cultivated.
- If applicable, move irrigation off to one side of the bed.
- Demonstrate the appropriate use of each tool in cultivating the bed.
  - Edging Shovel: The object is to cut the encroaching grass at the edge of the bed and turn soil in towards the middle of the bed. Edging should be done in a straight line along the edges, elongating the bed and avoiding making it wider.
  - Digging Fork: The object is to work the center of the bed by pushing the fork in with your foot and leaning back on the tool, heaving up, turning the soil, and breaking up the clods.
  - Rake: The object is to slowly comb out the weeds (crab grass) and put them in the wheelbarrow. When bed is in final stages, smooth out the soil and break up any remaining clods.
- Everyone should work together to pick out weeds from the soil and put them in the wheelbarrow.
- Demonstrate the "test" of cultivation: You know a bed is done when a digging fork can be held out at arm's length and dropped in the soil with the metal tines completely submerged in soil.
- Amend with compost by dusting a ¼" layer of compost on the surface of the bed and working it into the top two inches with a rake.

- Put irrigation back into bed.
- General teaching points for cultivating:
    - Why we cultivate: The addition of air is not only important in making the soil fluffy; it's also essential for the health of soil microorganisms. Cultivation also prevents compaction and is beneficial for soil structure.
    - Amendments (especially compost): Compost is the #1 thing we feed this garden. We call it our "lifeblood." It is the source for organic matter, microorganisms and nutrients in a plant-available form.
    - Soil as a living precious resource: How do we take care of our soil? Why?

Harvesting

- Tools: harvest baskets, clippers (if necessary), trowels (if necessary)
- Gather students in front of the crop you are going to harvest for a check-in. Review the job and describe the appropriate tools needed to complete the job.
- Gather necessary tools from tool shed and return to the crop to be harvested.
- Demonstrate proper harvesting techniques for the crop you are harvesting.
    - If harvesting crops that continually produce, be sure to demonstrate harvesting no more than 20% of the plant, leaving sufficient leaves for new growth.
    - If harvesting alliums such as onions or shallots, be sure to demonstrate the use of a trowel.
    - If harvesting potatoes, be sure to demonstrate the use of a shovel.
- Begin harvesting with students. Be sure to describe what the harvest will be used for in the kitchen.
- When harvest is complete, take harvest to a cool area to clean and bunch or place in a labeled container for storage.
    - If harvesting leafy greens, fill three buckets of water and dunk greens in buckets successively to clean and keep crisp.
- General teaching points for **harvesting**:
    - Seasonality and ripeness: Prompt students to observe the traits of the plant you are harvesting. How do we know it is ripe? What season are we in?
    - Different stages of harvest: Harvesting of seeds versus fruits versus leaves
    - Role of pollination: How does this plant get pollinated?

Propagation

- Common propagation jobs: sowing seeds, upsizing, transplanting, divisions, cuttings and grafting
- Gather students in front of the greenhouse for a check-in. Review the job and describe the appropriate tools needed to complete the job.
- Demonstrate what will be sowed or what will be upsized.
    - If sowing, review seed packet.
    - Fill token amount of flat with soil and demonstrate how to sow/plant one or

two seeds/seedlings.
    - Demonstrate how to label flat and water.
    - Write variety name and date on chalkboard for students to reference.
- Have the students observe the soil mix, pointing out the different components beneficial to root growth. What are the differences between sowing mixes and upsizing mixes? (Answer: the addition of compost.)
- Have students break into teams of two and begin propagating.
- When a flat is complete, have students label flat with the variety name and date, move the flat to a nearby table or into the greenhouse, and water it.

Other Common Garden Jobs at the Edible Schoolyard

- Flower bouquets
    - Use harvest buckets and clippers to harvest flowers from the garden.
    - Have vases already filled with water ready for students to make bouquets after harvesting.
- Direct sowing in the garden
    - Once the bed is cultivated, sow seeds directly into the garden bed. This works well for cover crops and crops such as arugula, bok choi, turnips, radishes, and carrots.
    - Use watering cans from the toolshed to water the seeds after sowing.
- Chopping and turning cover crop
    - Use shovels to chop up cover crop, turn it, and fold it into garden beds.
    - If cover crop is fairly tall, cut by 50% first with clippers or grass saws and take to Compost Row.
- Transplanting in the garden
    - Use trowels from the toolshed to transplant starts from the greenhouse into garden beds.
    - Demonstrate how to transplant into the soil.
    - Use watering cans from the greenhouse to water the plants after transplanting the bed.
- Constructing and deconstructing trellises and fences in the garden
    - Building projects are a great way to engage students.
    - Use handsaws to cut bamboo or wood into workable sizes.
    - Use rebar ties to hold the trellises or fences together.
- Mulching
    - If mulching pathways, use shovels and rakes to fill up wheelbarrows and spread out wood chips.
    - If mulching garden beds, fill wheelbarrows with straw and spread out around plants in beds.
- Pulling out crops
    - Use wheelbarrows and shovels if necessary to pull out crops that have already

been harvested and/or are dying.
    - Fill wheelbarrows with green material and take to Compost Row.
- Sign painting
    - Lay out painting materials and signs that need to be painted over or repair.
    - Walk the garden with students, taking note of crops that lack a sign, and generate a list.
    - Paint over old signs.
- Harvest worm castings
    - With students, shovel out small amounts of decomposed material into a wheelbarrow and pick out the worms, returning them to the worm bin.
    - An alternate method is to lay out a sheet on the ground and make mounds of the decomposed material from the worm bin, and wait for the worms to travel to the bottom of the mounds. Then, harvest the tops of the mounds and return the bottoms to the worm bin.
- Cooking in the garden
    - Before starting a recipe, consider the work that needs to be done and organize it into job groups or categories.
    - With students, review the recipe on hand. Describe the ingredients and jobs within the recipe and have students decide what part of the recipe they are going to be responsible for. (Look at take home **Choosing Jobs in the Kitchen Classroom**, for ideas on this).
    - Allow for students to have space between each other. Follow best practices for safety and emphasize keeping the area clean and organized, attention to detail, and reminders about helping each other and sharing jobs. On going hand washing too!
    - Give students the opportunity to harvest in the garden (Seed To Table) for side jobs and to help beautify serving platter. Edible flowers and large leaves are good for this.

Edible Schoolyard Garden Immersion Week

Summary

The Edible Schoolyard Immersion week developed in this last year when King Middle School adopted a new 7th and 8th grade class schedule, which changed our typical weekly layout of how often and for how long we could see students in the garden. In order to maximize time with students we needed to be flexible and pilot seeing the students every day for a week, rather than once a week over a 3-8-week period.

- The Edible Schoolyard Garden Immersion week was developed where each science class from the 7th and 8th grades are scheduled for a full week of garden programming and essentially come to the garden every day of the week.
    - The 7th grade classes receive two weeks of immersion, one for each semester.
    - The 8th grade classes receive one week in the spring rotation.
- The students are presented with track descriptions in their classroom prior to their garden week and are asked to vote by ranking their top to least favorite.
- The track groups work with an individual garden teacher for the duration of the immersion week and work together to complete goals set forth.

Track Descriptions

Each garden teacher creates their own track based on their own interest and specialization. Track descriptions are also based on the needs of the garden for that season.

- In some cases, tracks for the week have an overarching theme, where each track makes an attempt to include activities that relate to the theme.
    - The overarching theme helps to connect the students' garden experience to academic standards.
    - In the first rotation for the 7th graders, our theme was ecosystems.
- Examples of the kinds of tracks we offer are shown in the *Scope and Sequence* take homes and help to illustrate all the standards being covered.

Voting Process

The voting process has been our attempt to give choice and flexibility to the students. It's also a way to achieve student buy-in, while setting up the dynamics of the groups for success. This is an example of one of the voting ballots we used for one of the 7th grade immersions:

Name: _____ Teacher: _____ Period: _____

After each option below, please circle if it is your 1st, 2nd, 3rd, or 4th choice.
(You can only have one 1st choice, one 2nd choice, etc.)

All About Chickens (with Ms. Rachel):	1st	2nd	3rd	4th
Climate Change (with Mr. Geoff):	1st	2nd	3rd	4th
Gardening & Cooking (with Mr. Jason):	1st	2nd	3rd	4th
Mini-Habitats (with Ms. Tanya):	1st	2nd	3rd	4th

Thank you! We will do our best to place you in one of your top choices.

Opening Circle (5-8 minutes)
We use the opening circle to welcome the students and frame the class. Garden teachers rotate the role of facilitating opening circle.

1. Introduce the week's immersion tracks. Remind students that they voted for their tracks beforehand and the garden teachers did their best to give students their first or second choice.
2. Answer questions about how the week will run, reminding students that they will not meet in their classroom for the remainder of the week, but will meet at a designated spot identified by their group leader.
3. Divide into track groups.

In the Field (Mon.-Wed. average of 45 minutes, Thurs. or Fri. 90 minutes)
After opening circle, students break –up into their track groups. Each group has an average of 6-8 students and one garden teacher.

1. Check-in question and review of the week and the goals.
2. Meet up spot in the garden is identified for the week.
3. Each track group works on their goals and projects for the week, integrating student buy-in, when possible.

Closing Circle (Last 20 minutes of their final day, either Thursday or Friday)
For the immersion weeks, our closing circles are designed as a culminating process. The tasting is prepared by one of the track groups, and it usually consists of a prepared snack. Some of the prepared tastings we've done are kale pesto on bread and salad wraps with fava bean puree or beets.

1. The tasting is introduced and served in the Ramada. The same protocol is observed, where students wait to eat before everyone served.
2. Report backs are done after the tasting. Each group has the opportunity to share about their week.
3. Appreciations and shout outs are done, if time permits.

Common Assessments in the Garden

Summary
In the garden, we rely on a variety of practices to assess our teaching and our students' knowledge. Reporting out in a group setting, playing interactive games, and applying skills in the field can be used successfully throughout garden class as assessment practices.

Assessment Practices

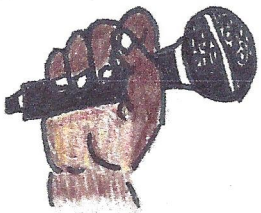
- Share an Observation/One Thing You Learned**:** We often use this assessment following our tastings or at the changing of the seasons. Each student shares one observation she/he/they has made. You can use a posted sentence structure to make this activity accessible to all learners ("I notice that my _____ tastes/looks/feels/smells/sounds like _____.").
- Think-Pair-Share**:** Students turn to a partner and share their answers to the posed question. This is a great way to involve students who are more timid and avoid raising their hands even if they know the answer. This is another optimal time to use a posted sentence structure to support the students' conversations.
- Hold Up Your Five Fingers**:** This assessment can be used at the beginning and end of the lesson as a temperature check of knowledge.
- Report-Outs**:** In closing circle, we often ask one or two representatives from each working group to share out a summary of what their group accomplished in class or a highlight from their time working together.
- Wind Blows Game**:** This game is similar to musical chairs in that the objective is to find a seat within the circle (with one less seat than the number of participants). One person stands at the front of the Ramada and reads a statement on a card beginning with "The wind blows…" If the statement applies to them, students get up and switch places with another student. The last student remaining then reads the next statement. The subject matter of the cards can be changed to fit any lesson (Examples: "The wind blows if you cultivated a bed today." "The wind blows for anyone who saw a pollinator today." "The wind blows if you can name one method of water conservation.").
- Appreciations: We allow time for students to share written or verbal appreciations for each other, teachers, and other organisms in the garden ecosystem. For example, after a lesson on the carbon cycle, students wrote appreciations for our Grandmother Oak tree and hung them from her branches.
- Success in the Field: Teachers are consistently observing and guiding student engagement in field activities. Teachers will often demonstrate garden tasks and give students the opportunity to practice these tasks independently. Teachers can then assess the efficacy of their instructions and give feedback as needed. Teachers

also encourage students to teach each other, which develops student leadership and provides information to the teachers about what information students retain, as well as what they find important enough to convey, about the task at hand. Teachers can identify potential student leaders using temperature checks, or pre-assessments, to gauge students' prior knowledge.

BEAUTY

- FOR US NOW
- FOR PEOPLE COMING AFTER US

FOCUS

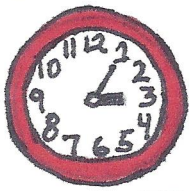


- ON TASK
- TAKING INITIATIVE
- ONE VOICE IN CIRCLE

JUSTICE

- ACCOUNTABILITY
- SHARING, FAIRNESS

WASTE

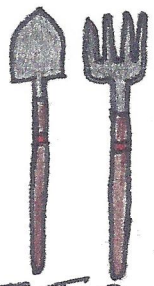


- TIME
- WATER
- ASK BEFORE PICKING

PEOPLE

- FLEXIBILITY & MATURITY
- INCLUSIVITY
- RESPECT & KINDNESS

TOOLS



- SAFE USE
- CARE
- RIGHT TOOL for the RIGHT JOB

Reflection Cards

Goal of the Reflection Cards

The use of the Reflection cards is a proactive approach to prompt reflection and self evaluation. Providing students with the opportunity to reflect on their actions has proven to be a valuable life skill for our students.

In The Field

After we break out into groups and leave the Ramada one of the first things we do with our group is a 'Small Circle Check-in'. It's here that we Have each student answer a "check-in" question which are provocative, fun and may not have anything to do with gardening. These questions can also relate to the lesson or theme of the day.
Circling up as a group is a great way to define yourselves as a team for the rest of class. It allows you describe the garden job to the group and also is a perfect opportunity to present the reflection cards.

- Ask a student to look/read through the set of cards and choose one that speaks to them as something we will watch out for today during garden class.
- After every student has had the opportunity to engage in the check in question return to that student to find out what reflection card they have chosen and ask them to read it out loud to the group.
- Explain that we're going to circle up briefly at the end of class to reflect on how we did as a group in relation the the card chosen. Example; If the student had chosen the 'Justice' card we would reflect on accountability, sharing and fairness. Ask students how any of these things showed up for them during class today.

Edible Schoolyard Garden Culture

Summary
The rituals and routines that students and teachers follow create a responsive garden classroom environment that fosters access for all students.

Student Rituals and Routines

In the garden, we have established the following rituals and routines so that students know what to do when they come to garden class. Students:

- Arrive quietly to the Ramada and take a seat, ready for opening circle
- Can reference the job board for the lesson of the day, garden jobs, and the closing circle activity.
- Hear brief descriptions of each garden job on the board from garden teachers.
- Choose the right tool for the right job from the tool shed.
- Know the ring of the cowbell signifies that they should:
    - Clean and put back tools in the tool shed (tools with red tape outside, tools with yellow tape inside).
    - Head back to the Ramada for closing circle.
- Participate in **tastings**:
    - Wait until everyone is served.
    - 6th grade: Share his/her name and a description of the tasting based on the five senses.
    - 7th and 8th grade: Share his/her name and create a simile about the tasting using the five senses.

Garden Teacher Rituals and Routines

As garden teachers, we have established a set of rituals and routines for every garden class so that students know what to expect. Garden teachers:

- Write garden jobs and/or the lesson of the day on the job board prior to class and hang the job board in the Ramada for all to see.
- Welcome students as they arrive to the Ramada.
- Share leadership in facilitating opening and closing circles.
- Ask check-in questions in small circle groups that set the tone.
- Ring the cowbell to signify clean-up and closing circle.
- Check-in with classroom teachers after every garden class.

Student Buy-In

With the following practices, we aim to instill a sense of ownership and love for the garden in each student:

- Engage the senses!
    - Woo students by enjoying food from the garden with activities such as cooking papas fritas and wood-fired beets as well as pressing apple cider.
    - Grow many crops for foraging in multiple seasons and facilitate picking. Some examples include:
        - Strawberries, mulberries, loquats, raspberries, ground cherries, figs, pineapple guavas, sorrel, sugar snap peas, carrots, celery
    - Harvest-to-Home giveaway: Before the last bell of the day rings, set up a table in front of the school with harvested crops from the garden and grocery bags. Students are able to fill their bags with produce to take home. (We hold our Harvest-to-Home giveaway the day before Thanksgiving break).
- Lesson and crop timing
    - Hold garden classes during different times of the year to allow students to experience seasonality and the progression of fruits and vegetables from seed to table.
    - Coordinate crop planning with kitchen program.
        - Facilitate students planting and/or harvesting ingredients for their kitchen classes.
        - Plan ahead by timing the planting of crops that are used in kitchen lessons.
- Students use real tools for real jobs authentic to the needs of the garden.
- Students choose the working group they would like participate in based on the descriptions from each garden teacher.

Encouraging Success

In the garden we empower students to make decisions and encourage them to be their best selves.

Garden teachers:

- Set high and clear expectations with the "Respect in the Garden" poster. (See the *Respect in the Garden Take Visual Aid* take home from this ("A Typical Garden Class") session.
- Recognize the spectrum of LGBTQ/gender identities and understand the importance of creating a safe and inclusive classroom setting.
- Eliminate barriers to participation by providing protective gear like boots, gloves, aprons, knee-pads, and ponchos to help everyone feel comfortable and prepared.
- Provide diverse garden jobs that appeal to every student. (For example: sign painting for artsy students, mulching for high-energy students, and propagation for mellow students)
- Break up the class into small working groups that are spread out in the garden.
- Encourage students to pick the garden job that appeals to him or her most with open-mindedness.
- Maintain a level of flexibility and adaptability based on the needs of the students. Whenever possible, say "Yes".
- Encourage appropriate play such as wheelbarrow rides, with the understanding that a certain amount of risk in play is beneficial.
- Reward students with more responsibility and give students an empowering task when they seem to be off task.
- Offer precise praise as much as possible.
- Ask for student input whenever possible.

We Are Committed To Developing Our Cultural Humility

Individually and organizationally, we explore the impact of culture and identity on the schooling experience, examine the influence of race, power, and privilege on the educational process, and seek culturally responsive pedagogy and practices to ensure access for all students, especially those historically underserved by the educational system. We aim to create physical and emotional spaces that reflect and celebrate the diversity of our community.

- Purposefully utilizing activities that affirm and validate the backgrounds, cultures, languages, and experiences of the students
- Providing protocols for discussion and participation that facilitate the validation and affirmation of cultural behaviours in the garden classroom
- Engaging students in activities which tap into their personal learning styles

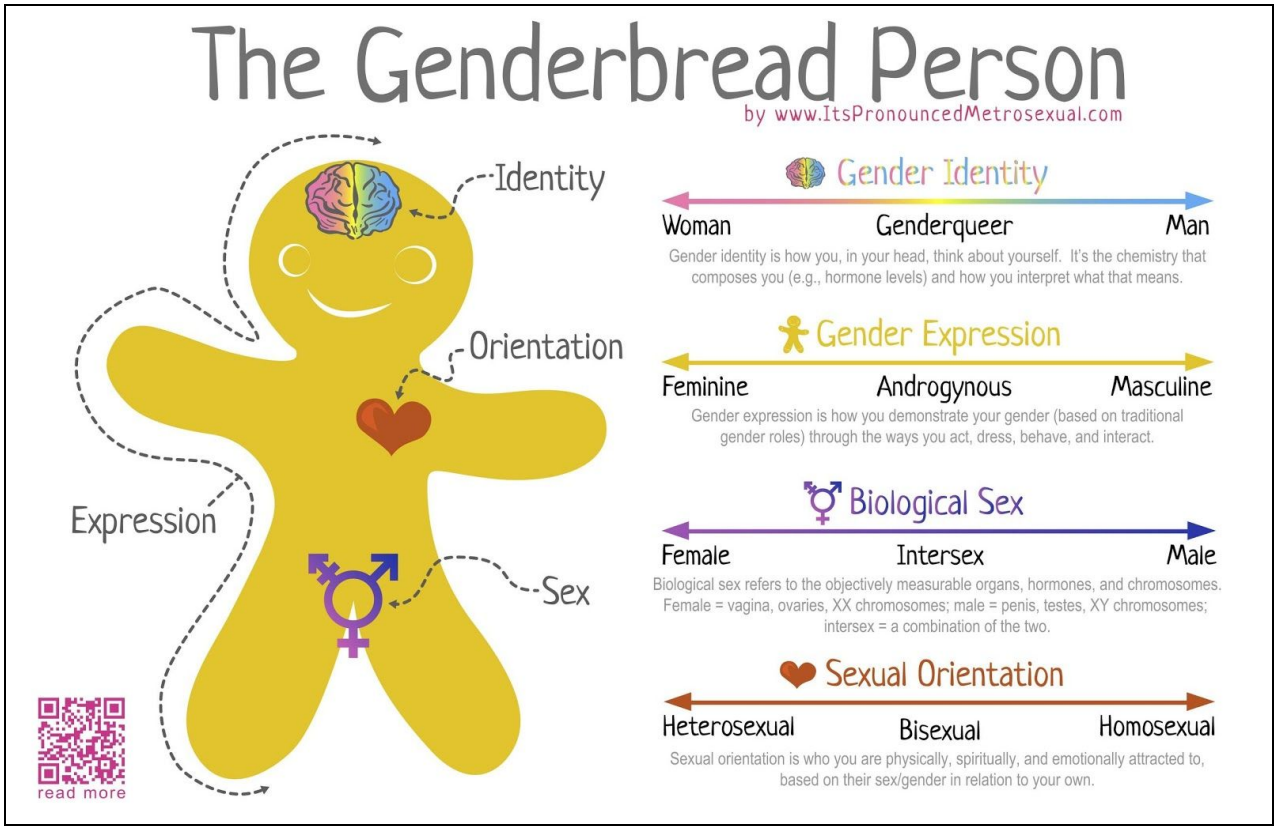
Conflict Resolution

The above strategies of Encouraging Success are a proactive approach to preventing conflict and allowing students to show up as their best selves. However, when conflict does arise we use the principles of Restorative Justice to find resolution.

Restorative Questions: To help those affected
• What did you think when you realized what had happened? • What impact has this incident had on you and others? • What has been the hardest thing for you? • What do you think needs to happen to make things right?
Restorative Questions: To respond to challenging behavior
• What happened? • What were you thinking/feeling at the time? • What have you thought about since? • Who has been affected by what you have done? • In what way have they been affected? • What do you think you need to do to make things right?

Safe and Inclusive Space

Gender isn't binary. It's not either/or. In many cases it's both/and. As educators we believe it's our responsibility to ensure a safe and inclusive space for all students. We use the below graphic, "Genderbread Person", as a quick guide to understanding gender.

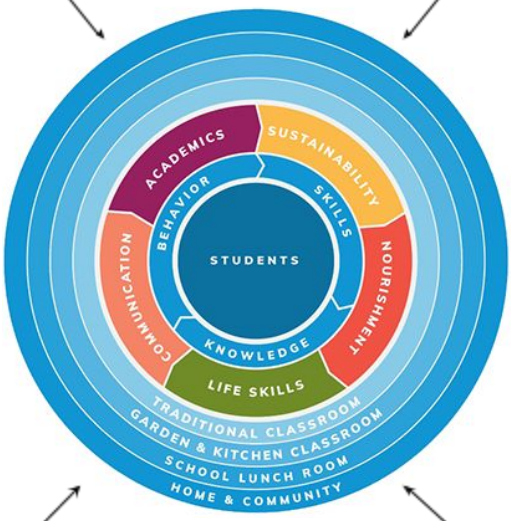


Practices for Engaging Students in Edible Education

We model and encourage a belief that intelligence and abilities can grow with effort.

We provide opportunities for students to collaborate, lead, and develop their voice.

We believe in the ability of each student to succeed and we are committed to helping all students meet high expectations.



We help students build a toolbox for learning by providing them with opportunities to develop key academic, scientific, and observational practices.

We teach to the whole child and a range of learning styles.

We encourage students to take ownership of their learning through inquiry, exploration, and independence.

We spark interest, highlight real-world connections, and share our passion.

Practices for Engaging Students in Edible Education

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!

“Cooking in the Garden” Tool Kit Worksheet

Important Tools	Approx. Price	Quantity	Where can I get this tool?
Paring knife	$5		
Cutting board or mat	$10		
Box grater	$8		
Peeler	$3		
Juicer	$10		
Set of mixing bowls	$20		
Mortar and pestle	$25		
Spatula	$5		
Wooden spoon	$3		
Whisk	$5		
Measuring spoons	$2		
Measuring cups	$4		
Storage bins	$20		
Dish towel	$2		
Bench scraper	$2		
Zester	$7		
Microplane	$12		
Garlic peeler	$7		
Wavy knife	$7		
Butane burner	$20		
Induction burner	$100		
Sauce pan	$20		
Sauté pan or skillet	$20		
Stock pot	$40		

Pot holder	$5		
Bus tub	$8		
Bin for compost	$10		
Bucket	$5		

Questions to consider when building your tool kit:
How many students will be cooking at one time?

What tools are age-appropriate for my students?

Do I have somewhere to clean up on site?

How will I store and transport my supplies?

What is the focus of your program?

Are there any stores that might make in kind donations?

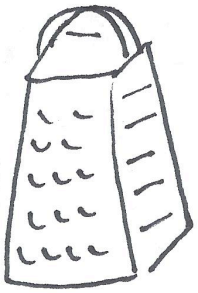
Other items to consider:

- Cooking with heat options. Induction, butane cassette, propane.
- Restaurant supply stores are a good, often inexpensive, option.
- Ask for in kind donations from kitchen stores.
- You may have to shop around and purchase from many places to get different tools that you are happy with.
- Storing and transporting tools-Toolboxes, carts, totes.
- Look for durability and versatility. Quality over quantity.
- You can buy just a couple tools and see which are most often in use before purchasing larger quantities.

“Cooking In The Garden”
Example Tool Kit Inventory

Tools	Quantity
Paring knife	5
Cutting board	5
Cutting mat	3
Box grater	1
Bench scraper	1
Peeler	3
Juicer	1
Set of mixing bowls	1
Mortar and pestle	1
Wooden spoon	1
Whisk	1
Measuring spoons	1
Measuring cups	1
Dish towels	5
Colander	1
Platter	1
Scissors	1
Scrub brush	1
Tongs	1
Compost bin	1

Lettuce Leaf TACOS



2-3 heads lettuce, washed
(butter lettuce or romaine work best)
2 cucumbers, peeled and grated
6 carrots, peeled and grated
salt and pepper

In a large mixing bowl, combine the grated cucumbers and carrots. Gently toss the vegetables with the salad dressing and season to taste. Place the cucumber-carrot filling into a lettuce leaf, wrap, and enjoy!

BE CREATIVE! FEEL FREE TO ADD:

- edible flowers! (nasturtium, borage, arugula flower)
- assorted herbs! (parsley, cilantro, thyme, mint, basil)
- other garden greens! (arugula, sorrel, purslane)
- grated beets, zucchini, summer squash, etc!

Basic Salad Dressing

¼ cup vinegar

½ teaspoon salt

¼ teaspoon pepper

1 small clove garlic - peeled and crushed

¾ cup olive oil

In a small bowl combine the vinegar, salt, pepper and garlic. Add the olive oil S L O W L Y by pouring it from the measuring beaker in a tiny, thin trickle while whisking constantly.

Optional: Fresh herbs, mustard, shallot or a touch of honey can also be added if you like.

A Typical Edible Schoolyard Kitchen Class

Overview
A typical kitchen class at the Edible Schoolyard Berkeley is 86 minutes (1 hour and 26 minutes) and is divided into three main parts: the Chef Meeting, At the Table, and Closing Circle. The kitchen classroom has rituals and routines for every kitchen class so students know what to expect and what is expected of them when they arrive.

Entering the Kitchen (1-2 minutes)
Students line up outside the kitchen classroom and wait for a kitchen teacher to greet them. Students spit out their gum, come into the kitchen in an orderly fashion, put their backpacks away in the cubbies, put on an apron, and gather at the middle table for the Chef Meeting.

At the Chef Meeting (10-20 minutes)
The Chef Meeting is where we introduce and frame our lesson for the day, deliver content to all students, and facilitate class discussions. It is also when we explain why we have chosen the recipe we are preparing and to make academic links to the students' classroom curriculum. Chef teachers rotate the role of facilitating the Chef Meeting, and we keep internal chef meeting notes for each lesson to maintain institutional memory and track modifications or improvements from year to year.

1. Introduce the recipe and put it into context. If applicable, reference previous lessons.
2. Make academic and curricular links.
3. Take questions.

At the Table
After the Chef Meeting, students wash their hands and break up into three cooking groups. The classroom teacher divides the students into three groups before arriving to their first kitchen class of the rotation, and groups should have a balance of gender and personality. Each group has an average of 10 students, 1 ESY kitchen teacher, and 1-2 community volunteers.

1. Review the recipe(s) and introduce knife skills and cooking methods (5-10 minutes):
    a. Demonstrate how students are going to prepare each ingredient on the platter. Have students identify the tools they will be using.
    b. Break down the steps of the recipe(s) and explain the cooking jobs.

2. Check-in and assign cooking jobs (5 minutes)

a. Have each student answer a "check-in" question (i.e., Where do you see yourself in ten years? Who is your favorite athlete, author or artist?). This can be a fun or provocative question that may or may not be food related, but will allow the teachers to get to know the students and visa-versa.
b. Have each student identify the cooking job(s) they would like to work on for the class period.

3. Cook and set the table (40-50 minutes)
    a. Students read the recipe together before breaking up into their cooking jobs.
    b. While cooking, students practice our "clean as you go" routine. We expect students to clean up after finishing a cooking job before they move onto the next task.
    c. Students taste as they cook and adjust the seasoning along the way.
    d. When the students have finished preparing the ingredients and the food is still cooking, students clean and set the table. We typically use a plate, silverware, cups, and napkins, and students are also encouraged to create a unique centerpiece using flowers from the garden and other interesting items they find around the kitchen.

4. Eat (10 minutes)
    a. Since table groups sit down to eat as the food is ready, groups may eat at slightly staggered times.
    b. The table group begins to eat only once every member of the group has been served.
    c. This is a chance to talk about ideas related to the lesson, the recipe, or whatever interests the group.

5. Clean up (10 minutes)
    a. When they are finished eating, each student busses their own plate, cup, and silverware.
    b. One table group goes to the dishwasher to wash the plates, cups, and silverware for the entire class.
    c. The other two table groups finish cleaning their table and cooking station, as well as the table and cooking station for the group at the dishwasher (see clean up job descriptions resource).

Closing Circle

Closing Circle provides an opportunity for us to hear what our students took away from kitchen class (i.e., If you were to prepare this recipe at home, what vegetable would you add?)

Sauté, Roast, Steam

Summary
In this seventh-grade humanities lesson, students review and practice three cooking methods that they have used in previous kitchen lessons. Students work together to make decisions as to how they will utilize different methods to cook different ingredients. This is the fourth in the five-lesson series leading up to Iron Chef, the culminating challenge of the seventh-grade kitchen experience.

Objectives
After this lesson, students will be able to:
- Draw upon their knowledge of multiple cooking techniques to prepare fresh vegetables without following a recipe.
- Work collaboratively and inclusively to make group decisions.
- Cook without relying on the support or guidance of an adult.

Assessments
During this lesson, students will:
- Sauté, roast, and steam vegetables following simple technique guidelines instead of detailed recipes.
- Decide how to cook each of their vegetables while practicing positive group behaviors and habits.
- Prepare their meal independently of their cooking teacher.

Materials
For the Chef Meeting
- Visual aid outlining cooking methods
- Ranch Dressing recipe
- Cooking Methods reference sheet

Ingredients
- Sweet potatoes
- Green beans
- Asparagus
- Cauliflower or carrots
- Garlic
- Thyme
- Mayonnaise
- Buttermilk
- Oil
- Salt
- Pepper

Tools

- Small stockpot
- Steamer basket
- Chef's knives
- Paring knives
- Roasting pan
- Skillet

Equipment

- Oven
- Stovetop

Before You Begin

- Collect all the ingredients and tools, and distribute them to the tables.
- Gather supplies for the Chef Meeting.
- Create the visual aid.
- Copy the Sauté, Roast, Steam methods sheet to hand out.
- Copy the Ranch Dressing recipe to hand out.

Procedures

At the Chef Meeting

1. Today's lesson is built around giving you practice for Iron Chef. During Iron Chef, you are going to be cooking without recipes and without adult support. You are also going to be making group decisions about what to prepare and who is going to work on each task. Today you will practice those skills in our Sauté, Roast, Steam lesson.
2. You are going to prepare some of the cauliflower using each of these three cooking methods so that you can compare how each method impacts flavor and texture. You will decide how to prepare each of the other vegetables as a group.
3. Can anyone explain what it means to "sauté" something? To sauté means to cook something in a pan with a little oil over medium-high heat, typically with some onion or garlic and salt, pepper, or other spices or seasonings.
    a. What dishes use sautéing that you cook at home? That we have cooked here?
    b. Based on your experience eating sautéed dishes, how would you describe how sautéing impacts flavor?
4. What does it mean to "roast" something? Roasting is a way of cooking food in a dry, hot (400F+) oven. Generally ingredients are covered with a little oil, salt, and other seasonings before going into the oven.

   a. What vegetables have we roasted here? How would you describe how roasting impacts flavor? Texture?
5. Steaming or boiling is a quick cooking method that highlights the existing flavor of vegetable without changing it much. It's especially good for delicately flavored or textured vegetables.
   a. What vegetables have you had steamed or boiled before?
   b. Emphasize that boiling or steaming should be a quick process. Remind the students how tasteless the vegetables were after boiling for 20 minutes to make stock in a previous class.
6. We are also going to make homemade ranch dressing that you can eat with your vegetables if you choose.
7. Other things to keep in mind:
   a. Maximize use of the food. Minimize waste.
   b. Show how to use a peeler most efficiently.
   c. Even cuts ensure even cooking.
   d. Care for your tools!
8. Ask students to wash their hands and go to their table groups.

At the Table

1. Small-group check-in: How are you doing today?
2. Explain that in a few minutes the students will be taking the lead and making a group decision of how to prepare the meal. To prepare them for that process, you are going to share some teamwork and collaboration skills.
3. We noticed that teamwork and collaboration are often talked about, but not often defined. The kitchen teachers sat down and decided that the most important aspects for Iron Chef that the judges should watch for are the following:
   a. Group is inclusive.
   b. All members contribute.
   c. Group members listen to each other.
   d. Group members are respectful of one another.
4. It is easy to think about how not to follow those ideals and what negative, destructive behaviors look like. It's obvious that we don't want to be exclusive by pushing people outside the group, shutting down specific people when they try to contribute, interrupting, or fighting.
5. However, an absence of destructive behavior and interactions is not the same as having lots of positive behaviors and interactions. Instead of just cutting out bad behaviors, we want to build and practice positive interactions and habits.

6. What is a thing you can do in a group setting to make the group more inclusive? Say someone is sitting removed from the table while everyone else is huddled in closely?
    a. Allow students to answer these questions if they can. If not, offer answers such as:
        i. Invite that person to join the group.
        ii. Ask that person or people if there is something blocking them from participating.
7. What can you do if you notice that you or another group member is talking most of the time and that another person hasn't spoke at all?
    a. Ask for their opinion on something.
    b. Structure a pause to allow them time to jump in.
8. How can you be a better listener? What practices have you learned or heard of for being a better listener?
    a. Give eye contact to the speaker.
    b. Nod along or use other nonverbal clues to show that you are following.
    c. Paraphrase what the speaker said to demonstrate understanding.
9. How can we show our respect for one another?
    a. Give affirmations and compliments to one another to recognize contributions.
    b. Express gratitude to others and the group.
10. It is key to do this sincerely to create as strong of a group as we can.
    a. Have you ever experienced how a bad apology hurts worse than no apology at all? The same thing can happen with feigned inclusion and respect. If you can't do it sincerely, then it might be better to not do anything.
11. Think about this and practice this today! This is not just for kitchen. This is for life.
12. Split up into cooking jobs.
13. Cook.
14. Eat. A good topic for conversation during this lesson is group dynamics and reviewing their group decision-making process.
15. Clean up.

At the Closing

1. Ask students to rate the food using their fingers from 1 to 5.
2. If there's time, reflect on discussion from the small table groups. Encourage students to continue reflecting on their group decision-making process.

Vocabulary

Sauté
Roast
Steam
Inclusivity
Paraphrase

Teaching Notes

- Iron Chef prep: We developed this lesson as the final seventh-grade lesson before Iron Chef, the culminating challenge of the seventh grade year in the kitchen. In Iron Chef, students plan, prepare, and serve a meal using surprise ingredients, no recipes, and no adult help. We found that this lesson was a great practice run for Iron Chef because it clearly lays out three cooking methods that students report feeling more confident improvising with after the lesson, and also provides them with the opportunity to practice making group decisions and cooking without recipes.
- Referencing previous cooking lessons: We have found that one way to encourage independence and confidence with the cooking methods for this lesson is to prompt students to recall previous dishes they made in the kitchen and connect each dish with the corresponding cooking method. Once students have the memory of how they made something, they feel much more equipped to repeat the process with little to no guidance.
- Scaffolding the experience: Our goal with this lesson is for groups to work independently from adult help, but different groups require different kinds of support to make this lesson successful. The role of the teacher here is to carefully observe each individual group and provide support where needed, encouraging independence and team collaboration as much as possible.
- Group dynamics: Though we step back from the cooking process in this lesson, we make sure to be intentional about stepping in when group dynamics aren't working. One technique we often use here is simply to name what we're seeing. (E.g., when all the female students are working on cleaning up and the male students have sat down and are waiting for the meal to begin: "I'm seeing that who is cleaning and who isn't is falling along gender lines. Let's change that.")
- Time management: This is an excellent lesson to help students communicate with one another to coordinate the timing of all their

dishes. We introduce this as a central part of the lesson and tell students that this serves as excellent practice for Iron Chef.

- Steamer basket: Many of our students were unfamiliar with using steamer baskets, so we started introducing it as part of the Chef Meeting.
- Vegetable prep and cooking time: This lesson is a great time to remind students that the size and shape of each vegetable will affect the cooking time and outcome. Encourage them to consider this when choosing how to cut their vegetables.
- Tasting and seasoning: Encourage students to taste and season as they go to get a sense for how each cooking method impacts flavor and texture. We often tell students that when roasting, you generally season before cooking; when sautéing, you generally season while cooking; and when steaming, you generally season after cooking.
- Reflecting on team dynamics: After the cooking period in this lesson, we always facilitate group reflection and discussion at the table about how the team worked together and made decisions. Encourage students to reflect on what went well and what didn't go as well as it could. What could they do differently as a group to improve on their teamwork for Iron Chef?
- Asparagus: Show students how to cut the dry, tough bottoms off the asparagus. Make sure they know the tops of the spears are edible—we were surprised how many of our students threw both the tops and bottoms in the compost at first.
- Ranch: This recipe ended up being a big hit with our students despite initial skepticism on the part of many.
- No right or wrong answers: Deciding how to cook the vegetables can sometimes feel a little overwhelming. Assure students that there is no right or wrong way to cook the vegetables.
- Pride in independence: Students really feel a sense of pride when they complete a cooking class largely without teacher assistance.
- Growth through failure: Conversely, when groups don't succeed they often jump to critical self-reflection and learn much more quickly than if told by a teacher. This happened frequently with clean-up and having lots of dishes left over. Providing space for some failure can be an incredibly effective teaching technique.

Connections to Standards

Common Core, English Language Arts and Literacy, Grade 7

SL.7.1.b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed.
SL.7.1.c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed.
SL.7.1.d. Acknowledge new information expressed by others and, when warranted, modify their own views.
RH.6-8.7. Integrate visual information with other information in print and digital texts.

Edible Schoolyard 2.0 In the Kitchen, 7th grade

2.1.3 Select correct knives from the ESY Toolbox. Refine knife skills by using different cuts and sizes while demonstrating knife safety and care.
2.2.4 Understand the versatility of ingredients, and realize that certain ingredients are available in particular seasons.
2.2.5 Execute an increasing variety of techniques, begin to choose the correct technique for each job, and discuss reasons to use different techniques.
2.2.6 Read and follow recipes with increasing skill, begin to recognize when alterations or adjustments are possible, and improvise recipes when ingredients are provided.
2.2.7 Refine tasting skills and adjust seasoning, compare and contrast different recipes in conversation using more advanced descriptive vocabulary.

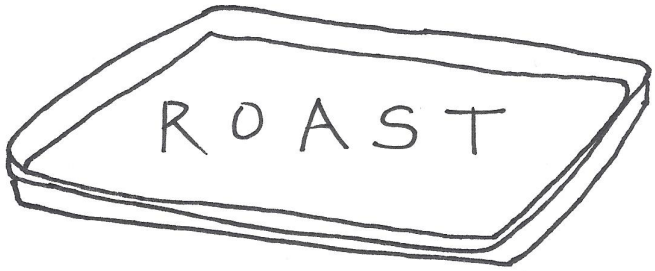
Contributors

All lessons at the Edible Schoolyard Berkeley are a collaboration between the teachers and staff of the Edible Schoolyard and Martin Luther King Jr. Middle School.

COOKING METHODS

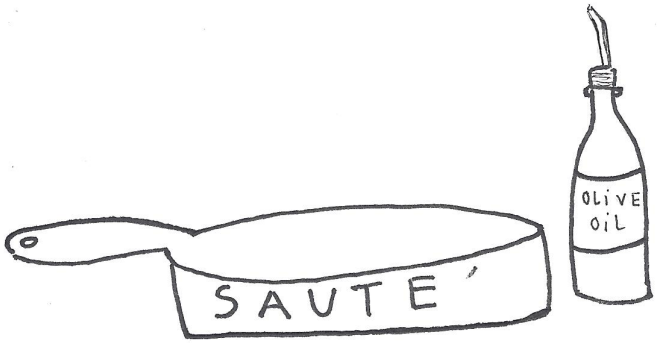
WHERE: STOVE TOP

HOW: IN STEAMER BASKET
OVER BOILING WATER
WITH LID ON POT



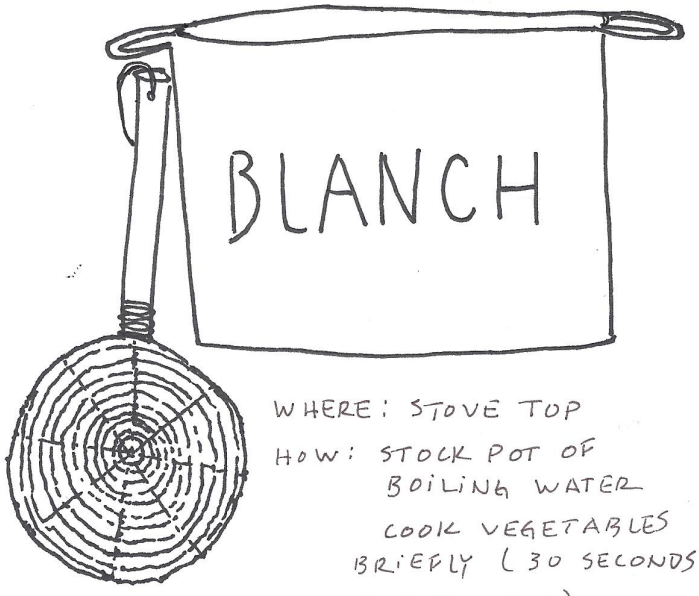
WHERE: HOT OVEN (375°- 425°)

HOW: SINGLE LAYER,
ON A SHEET PAN



WHERE: IN SKILLET ON STOVE TOP

HOW: COOK IN OIL OR BUTTER



WHERE: STOVE TOP

HOW: STOCK POT OF
BOILING WATER
COOK VEGETABLES
BRIEFLY (30 SECONDS
TO 3 MINUTES)
SHOCK IN ICE WATER

Ranch Dressing

Peel 1 SMALL CLOVE GARLIC

Pick the leaves from 3 SPRIGS FRESH THYME

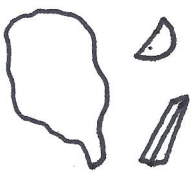
In a mortar and pestle grind to a paste the peeled garlic, thyme leaves and a pinch of salt.

In a bowl, mix together the garlic-herb paste and

1 CUP MAYONNAISE
1 CUP BUTTERMILK

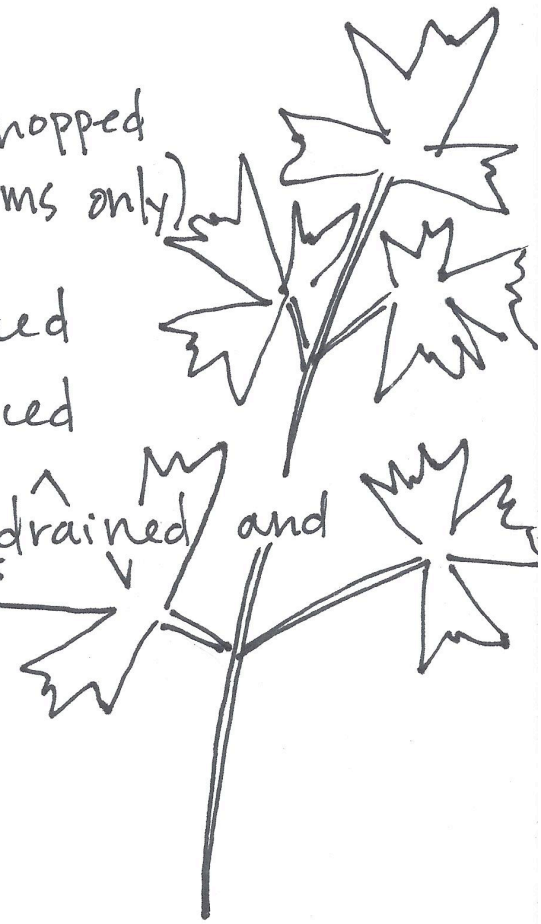
Whisk until smooth, then season to taste with

SALT
PEPPER



Use as a dip, salad dressing, or to bring your sandwich to the next level.

Salsa Verde



1/2 bunch parsley, finely chopped (leaves and thin stems only)

1 lemon, zested and juiced

1 garlic clove, finely minced

1-2 tablespoon capers, rinsed, drained and coarsly chopped

1/2 teaspoon salt

fresh ground pepper to taste

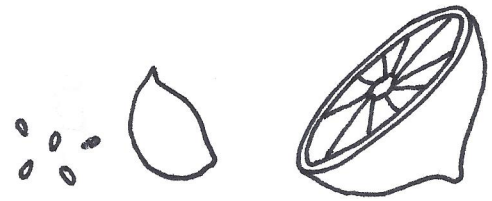
1/2 cup olive oil

☆ NOTE: other herbs, or combination of herbs, can replace part or all of the parsley

In a mixing bowl, combine the parsley, lemon zest, garlic, capers, salt, and pepper. Slowly add the olive oil and lemon juice until it is the desired consistency. Let the sauce sit for awhile to develop the flavors, then taste and adjust the seasoning until it's how you want it.

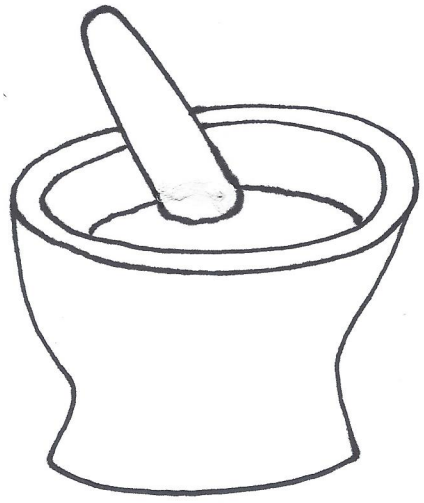
Don't hesitate to experiment!!!

Tahini Sauce



1 clove garlic, peeled
1/2 teaspoon salt

Smash the garlic and salt into a smooth paste using a mortar and pestle.



1/2 teaspoon ground cumin
1/4 teaspoon cayenne pepper
1/4 cup lemon juice
1/4 cup ice water
1/2 cup tahini

Add the cumin, cayenne, lemon juice, ice water, and tahini and whisk together into a creamy sauce. Enjoy with roasted vegetables, pita bread, or just about anything else!

Crafting a Check-In Question

Overview

In every class we start the small-group component with a check-in. This check-in serves to remind all students, teachers, and volunteers of each other's names, and to give everyone an opportunity to speak and listen to one another. The check-in should be a brief, simple, and enjoyable experience for the students, teacher, and volunteer.

Question Criteria

We design our check-in questions to be:

- Interesting and fun to hear multiple answers to.
- Easy, approachable, and not intimidating to answer. If every students cannot easily come up with an answer, then it may not be a good check-in question.
- Answerable by all students. There should not be a right or wrong answer to the question. Students should not have to have any specific previous experience to be able to answer the question. Every students' answer should respected and valued evenly. The validation of their experience and answer creates access and engagement for all students.
- Safe and comfortable for all students to answer. Some well-intended questions like "What are you planning on doing this summer?" can bring up inequity and insecurity for some students. We want our questions to be inclusive and accessible to all students.

Facilitating a Check-In

Once you have crafted a check-in question follow these steps:

1. Invite the students to have a seat at the table and introduce the check-in question.
2. Remind the students that the expectations during check-in are to listen to other students quietly and speak only when it is their turn. This means no replies or responses to peoples' answers.
3. Ask for a volunteer to go first, or start by answering the question yourself. Have the first person to answer indicate which direction they want to pass it.
4. Appreciate, verbally or with a smile, every student for their answer without commenting on it. Try to thank each student evenly so as to avoid praising different answers.

Example Check-In Questions

- What is your favorite meal to eat on your birthday?
- If you could travel anywhere in the world, where would you go?
- What is your favorite fruit or vegetable to snack on?
- Do you have a favorite kind of dog?
- What is your favorite holiday?

- What is your favorite flavor of ice cream?

Teaching Notes

- If you ask a question that you think some students may not have an answer to, normalize not having an answer by modeling it as a potential response.
    - e.g. “What is your favorite Chinese food? You could answer chow mein, fried rice, I don’t have a favorite Chinese food, or I haven’t tried any Chinese foods.”

Knives in the Kitchen Classroom: Habits, Rules, and Skills

Overview

Knife skills are at the foundation of every students' experience in the Edible Schoolyard kitchen classroom. Before students touch knives in the kitchen, they participate in a kitchen orientation. This orientation lays the foundation for safely learning and practicing knife skills. During their first cooking class, students apply the rules and habits to preparing greens over grains and establish a positive culture around the knives that allows us to build towards advanced knife skills.

We use professional quality tools which communicates to our students they are engaging in real work. This instills a sense of pride, ownership, and responsibility. Although we always assume our students' good intent, we also establish that the kitchen needs to be a safe space for everyone, both physically and emotionally. This means we have no tolerance for gestures or references to violence, even when made in jest.

Habits

1. Make sure you have a cutting board before selecting a knife from the toolbox.
2. Choose a knife that is appropriate for the job that you are doing.
3. Pinch the blade of the knife for a stronger grip and more control over the knife. Use the claw (fingertips and thumb tucked under) to protect yourself from cuts.
4. Protect your hands by using a bench scraper to move food off of the blade and to transfer food off of your cutting board.
5. Clean your knife at the table by wiping it down with a washcloth, making sure that the sharp edge is facing away from your hand.
6. Place the knife in the toolbox with the sharp edge down.

Rules

1. When working with a knife you should be looking at what you are doing.
2. When cutting something make sure the knife is moving towards the cutting board.
3. If you are not actively using a knife to cut something, you don't need the knife in your hand.

4. If you must leave the table with a knife, carry it safely by your side with the tip down and the sharp edge facing back.

Skills

1. Slice
2. Mince
3. Dice
4. Angle/Bias Cuts
5. Julienne
6. Chiffonade

Teaching Notes

One way to introduce and teach knife rules is to model the knife rules and then intentionally break them. Ask the students to evaluate your work with a thumbs up thumbs down vote, then call on students to explain their reasoning.

If students aren't following the knife habits and rules, ask them to pause and examine how they are working. Emphasize they are not in trouble but ask them to identify and correct the behavior in order to be safe. If there are concerns, a wavy knife or crinkle cutter is a good training tool for students to use before progressing to sharper knives.

Choosing Jobs in the Kitchen Classroom

Overview
In every kitchen class there is a process of dividing up the work to be done between students. This process can set the tone for the remainder of the class so it is important to make sure that students feel heard and respected through the process. Our goal is for the students to perceive the process as fair and match every student to a job that they are excited to do. This provides buy-in and engagement throughout class.

Before starting a lesson, consider the work that needs to be done and organize it into job groups or categories. For some lessons we divide the work based on ingredients, and for others by recipe. Generally, for younger students we give individual ingredients as jobs and for older students we denote entire recipes as job groups and have them independently organize specific jobs within the recipes. We have a few different methods that we employ based on the lesson and our experience of students' choices within each lesson.

Top Two:
This method is used in most lessons to divide up work between students.

1. Describe each of the jobs to the group and state the number of students needed to complete the job.
2. Tell the students that they will each have a turn to share their top two choices and that the order that they speak in does not influence how the jobs will be assigned.
3. Note each student's choices on a piece of paper using abbreviations for the jobs (eg. "C" for carrot and "O" for onion).
4. Once all students have expressed their preferences, try to match each student to one of their top two picks. If you cannot match all students to one of their top two jobs, ask if there are any students who will volunteer to switch to another job. If so, thank them for the flexibility. If not, propose a compromise in which students share one of their top picks with another student and then also work on the remaining unchosen jobs.

Raising Hands:
This method is used frequently when there are only a few groups or jobs available. It is faster than Top Two and can be used when time is at a premium. It can also be used with groups in which choosing jobs is not contentious and for whom doing Top Two seems unnecessary.

1. Describe each of the jobs to the group and state the number of students needed to complete the job. If there is one job that is predictably less

popular, start with that one.
2. Ask students to raise their hands if they want to work on a part of a recipe and repeat for the other jobs and recipes.
3. If the groups are appropriately proportioned, proceed with the work. If not, ask for a volunteer to switch groups.

Students Decide:
During Iron Chef and in our eighth grade Independence Series, we ask our students to divide up the work and jobs amongst themselves. This is a high-level collaboration skill that we scaffold by making our processes visible in their seventh grade kitchen classes. In this method, the teacher introduces the recipe and invites students to read the recipe and discuss how to divide the work.

Teaching Notes:
- Encourage all students to take turns sharing their jobs so that they can experience more parts of the process. This can also be a good way to alleviate stress around not getting very popular job options.
- Split up any problematic groups or pairs of students by assigning them different jobs.
- If you notice that certain jobs are less popular, sell that job to the students using one or more of the following strategies:
    - Show the students how the job is done in restaurant kitchens and emphasize that they will be doing it the same way as professional chefs.
    - Note that some jobs involving repetitive work (like washing salad) that may seem boring can be a good opportunity to converse and catch up with a friend.
    - Describe the job with great excitement and enthusiasm and share why you enjoy doing that job.
    - Describe the importance of the job to the meal.
    - Describe the importance of the job being done exceptionally well.
    - Frame the job as a challenge that you need someone to step up to.

Sample Question Card Questions

What is the scariest thing about becoming an adult?

What is something you want to learn that they don't teach you in school?

If you could change anything about yourself, what would it be?

Why do you think people give up on their dreams?

If you could be famous, what would you be famous for?

If you could live anywhere, where would you live?

If you could bring back one person from the dead, who would it be?

What is the first step toward ending racism?

Why do you think we need to go to school?

What is your most important goal right now?

What is one lesson that you had to learn the hard way and what did you learn?

What is the worst crime against humanity?

What are your three best and worst qualities?

What is your most prized possession and why?

What do you like most about yourself?

If you could teach any class, what would it be?

If you could have any talent, what would it be?

When do you feel the most protected?

Do you believe a person is defined by what he or she does for a living?

What is your greatest fear about having children?

What is one of your most beautiful childhood memories?

What makes you angry and how can you change that?

How do you think others view you and why?

What is a piece of wisdom that you would pass on to your kids about being your age?

What question would you like to be asked?

What is your biggest accomplishment and why?

What is something you wish you could change about your life?

What is your greatest fear?

If you could change one law, what would it be?

What are three traits you look for in a friend?

If you could visit any time period, which would you choose?

Would you rather have a job with average pay that you love or a job with great pay that you hate?

What language would you like to speak fluently?

If you could supersize one of your senses, which one would it be?
(taste, sight, touch, hearing, smell)

What makes you happy?

If you could make any dish in the world, what would you make?

Do you consider yourself an optimist or a pessimist?

Who is someone that you admire and why?

Would you rather live in the city or in the country?

What is an essential life skill you need in order to live on your own?

What is a misconception that people have about you?

Where is your favorite place to read?

What historical person do you admire and why?

If you could rename the Golden Gate Bridge, what would you call it?

Would you rather explore the deep sea or outer space?

What do you do when you are talking with friends and someone makes an offensive (i.e. racist, sexist, homophobic) comment?

Which is more powerful: love or hate?

What is one goal you want to achieve in the next year?

What does loyalty mean to you?

If your life had a soundtrack, what would be theme song and why?

If you could travel anywhere in the world, where would you go and why?

If you won a million dollars and could use it for anything but yourself, how would you use it?

Does climate change concern you? Why or why not?

What is one thing you wish adults understood better about young people and why?

What is one thing you wish you understood better about adults and why?

If you could meet one historical figure, living or dead, who would it be and why?

If you had 5 minutes to meet with the US President, what would you say?

If you were stranded on an island and could only bring 3 things what would you bring and why?

What is one thing people don't know about you that you wish they knew?

Who is your favorite character in a book and why?

Do you think people under 18 should be allowed to vote? Why?

Edible Schoolyard Kitchen Floor Plan

Kitchen Program – Kitchen Welcome
Take Home 11 of 14
Intensive 2017

Edible Schoolyard Kitchen
Equipment, Infrastructure, and Systems

Overview
Our kitchen infrastructure and systems directly inform how we run our classes. In the Edible Schoolyard kitchen, our space has been specifically designed to enable students to operate independently and create rich opportunities for exploratory learning. Every choice—from the number and size of our tables, the location of cooking tools and equipment, to the layout of our toolboxes—has been made with the intention of creating intuitive, user-friendly systems. Below, we describe our key kitchen equipment and systems, and discuss the role each element plays in a typical kitchen class. At the end, we include inventories of the tools and equipment we use in our kitchen classroom for reference. We hope that this context will allow you to understand how our specific infrastructure and systems support the curriculum we teach and enable you to more easily adapt what you find useful or interesting in the lessons that follow to your own kitchen classroom.

A Typical Kitchen Class: An Infrastructure and Systems View

Cubbies
The first thing students do when they enter the kitchen classroom for a kitchen lesson is to put their backpacks and any other stuff (including their phones) in a cubby. This reduces clutter and keeps the space safe by limiting potential distractions, reducing the possibility of unwanted materials or germs entering the food, and eliminating the tripping hazard of stray backpacks and sweatshirts.

Three Groups, Three Tables, Three Cooking Stations
The most fundamental design feature of our kitchen space is that it is set up to support three small groups cooking relatively independently from one another. In the center of the room are three main tables, each of which seats up to about 15 people. At the start of each class, everyone meets around the center table for the Chef Meeting, and then students break into their small groups, one group at each table. Tables are labeled by color (red, green, and blue), and each has a toolbox and small compost bin, also labeled with colored tape that matches the table color. Each toolbox contains basic knives and measuring devices, and each cooking station has a sink, two electric burners, basic pots and pans, and cleaning supplies (for a comprehensive list of toolbox and cooking stations tools and items, see “Kitchen Station Inventory”). The drawers and cabinets of the cooking station bear signs and other visual cues that remind students what goes where. Students in the table groups are responsible for the care of all tools and equipment in their toolbox and at their cooking station.

Toolboxes

We emphasize the use of real tools in the kitchen. Professional tools instill a feeling of responsibility in students as well as an expectation of serious effort. Our toolboxes contain all the tools students most commonly used in class, including chef knives and paring knives (for a comprehensive list, see "Toolbox Inventory"). The toolboxes and tools are all labeled with colored tape that matches the table color, helping students to easily return tools to the correct place after use. Toolboxes are open and have a clearly defined place for every tool. This allows students to easily and safely take knives out of the toolbox and replace them when they're done. Before every class, we wet two small towels and place them on the toolboxes—students use these towels to wipe down their knives after using them as opposed to washing them in the sink. This means that during class, knives never leave the tables, a key to keeping the space safe while the students use sharp knives.

Spice Table
We keep our spices, vinegars, and sauces on the Spice Tables. Putting these ingredients in a single, visible place with counter space allows students from all three groups to easily experiment with different flavors, keeps ingredients accessible by all three groups, and prevents the main working tables from becoming overcrowded with jars, bottles, and cutting boards. Below the spice table are containers for students to take leftover food to go.

Dish Cupboard, Dish Tower, and Metro Shelf
Dishes for setting the table and eating are stored in the Dish Cupboard; the Dish Tower stores platters and various serving bowls; and the Metro Shelf stores larger stockpots, mixing bowls, and a variety of cooking tools like spatulas, tongs, ladles, and sieves. All three are open-face and clearly labeled to show the correct place for the tools and utensils that belong there.

Altar
Each time students set the table to eat they have the opportunity to decorate their table with bouquets, items harvested from the garden, and other beautiful or interesting objects that the kitchen has collected over the years. We keep all of the items for table decorating on a side table called the Altar. We've found that table decorating is consistently a favorite job among our students, and often can engage students who are otherwise less interested in the cooking jobs. The Altar, boasting a range of beautiful seasonal harvest items, is an excellent physical reminder of the kitchen's link to the garden. It is also a place in the kitchen where students can find a large variety of physical touchstones that represent a diversity of cultures.

Bussing Table and Dish Station
Cleanup is an integral part of every kitchen class. At their table groups, students practice "clean as you go" to wash the dishes and tools they use to prepare the meal. After eating, all three groups bring their plates, cups, and utensils to the Bussing Table. At the Bussing Table students scrape any leftover food from their plates into a small compost bin, pour

leftover water in their glasses into a graywater bucket, and place their plate, cup, and utensils in three corresponding bus tubs. Cleanup is a rotating responsibility. One table group washes all the dishes from the Bussing Table in our commercial dishwasher at the Dish Station. The other two groups clear the tables, sweep their areas, and finish any cleanup still remaining from cooking.

Recipe Files
The recipe files hanging on the wall by our door contain a rotating supply of paper copies of the recipes we're preparing in the kitchen. We label the recipes clearly, and remind students at the end of every class that the recipes are available for them to grab and take home at any time. Placing them right next to the door makes them easily accessible for students on their way out.

Equipment
We have the following equipment in our kitchen classroom:

- Electric burners—six total; two at each of our three cooking stations
- Oven—freestanding convection oven
- Electric griddle—34" x 18" cooking surface
- Convection burners—kept in storage; used for lessons in which we need extra burners
- Refrigerator—three-door commercial-size refrigerator
- Commercial dishwasher
- Washer and dryer—regular front-loading

Kitchen Station Inventory

We emphasize the use of real tools in the kitchen. Professional tools instill a feeling of responsibility in students as well as an expectation of serious effort. Each of the three table groups has their own color-coded toolbox and a cooking station. Each toolbox contains basic knives and measuring devices, and each cooking station has a sink, two electric burners, basic pots and pans, and cleaning supplies. Students in the table groups are responsible for the care of all tools and equipment in their toolbox and at their cooking station.

Toolbox:

- 6 Chef knives
- 2 Bread knives
- 10 Paring knives
- 3 Crinkle cutters
- 3 Bench scrapers
- 1 Plastic measuring beaker
- 2 Sets measuring spoons
- 1 Set dry measuring cups (1/4 cup – 1 cup)
- 8 Vegetable peelers
- 1 Garlic peeler
- 2 Zesters
- 1 Wooden reamer
- 1 Pepper mill

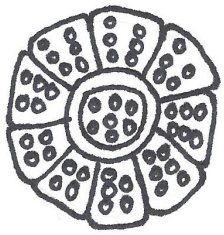
Cooking Station Cupboard:

- 1 Cast iron skillet
- 1 Cast iron Dutch oven
- 1 Cast iron griddle
- 1 Stockpot
- 1 Collapsible steamer
- 1 Saucepan
- 1 Salad spinner
- 2 Tablecloths

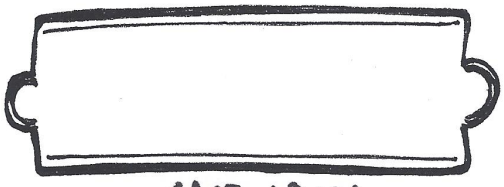
Cooking Station Countertop:

- 3 Cutting boards for onions and garlic
- 10 Cutting boards for everything else
- 1 Box grater
- 1 Soap dispenser
- 1 Sponge
- 1 Stainless steel scrubber
- 1 Sink
- 2 Electric burners
- 1 Drain catch
- 1 Set of various utensils (spatulas, wooden Spoons, and metal spoons)
- 4 Hot pads
- 1 Paper towel dispenser
- 2 Cotton dishtowels

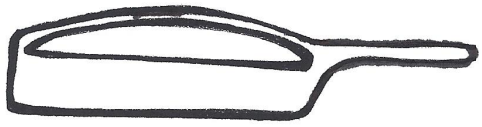
CUPBOARD INVENTORY



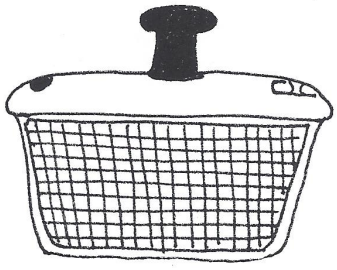
STEAMER



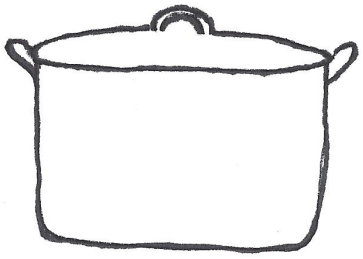
CAST IRON GRIDDLE



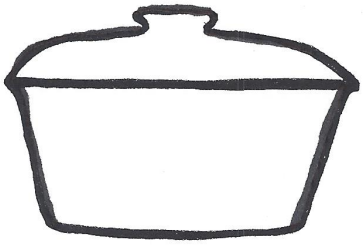
CAST IRON SKILLET



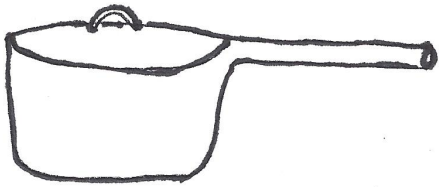
SALAD SPINNER



STOCK POT



DUTCH OVEN



SAUCEPAN


WHAT FACTORS IMPACT YOUR FOOD CHOICES?
HEALTH & NUTRITION
ENVIRONMENT
DEBATE PLATE
LABOR & JUSTICE
COST & ACCESS

Debate Plate Chef Meeting

Overview

This 10-minute Chef Meeting happens at the beginning of the first 90-minute cooking class in the five-lesson 8th grade Debate Plate series. In the Debate Plate series, students discuss and reflect on the factors and considerations that influence personal food choices, consider the impacts of those choices, and debate the myriad questions and complications associated with food choices. This Chef Meeting sets the stage for the Debate Plate lesson series through:

- Facilitating a student brainstorm and think-pair-share - this invites students to begin considering the depth of the topic at hand and contribute the knowledge and expertise they bring to the discussion.
- Telling a personal anecdote - this grabs student interest and sets the tone for a non-shaming environment in which students' lived experiences are crucial to the discussion and there are no wrong answers. This is critical to creating a safe and positive student experience throughout the week as we engage with topics that are often morally-charged.
- Explicitly naming and breaking down binaries - deconstructing "good" vs. "bad" and "healthy" vs. "unhealthy" sets the tone for the rest of the week and provides a model for students to apply to a range of topics for the rest of the week as they critically engage with the narratives and their own opinions around food choices.

Chef Meeting Notes

1. Welcome students back to the kitchen. Explain that this is the first of five lessons they'll have in the kitchen this spring, culminating in a pizza lesson at the end of the year. This week they'll be embarking upon a lesson series called 'Debate Plate,' which examines the factors behind what we choose to eat and the impacts of those choices. They have already started the discussion in their classrooms by reading the article about the Mandela Foods Cooperative in West Oakland. We'll continue to talk about the themes raised in the article, and build on them over the next week. They'll be coming into the kitchen four times, and spending Wednesday in the classroom doing a Debate Plate activity.
2. All week, we'll be thinking and talking about our relationships to food, engaging critically with the messages we hear about food and the way the food system currently works, and asking you to build self-awareness about your own food choices - the reasons behind them and their impacts. The series is called Debate Plate because each day we'll be asking you to construct arguments and defend your opinions on all kinds of questions related to food. There are no right or wrong answers for any of what we'll be talking about, and we'll definitely raise more questions than we can answer,

so we invite you to dig in without hesitation.

3. Ask for two volunteers to act as scribe. Lead a student brainstorm: What do you take into consideration when deciding what to eat or not to eat? What influences your food choices? Put ideas up on board – leave board up over course of week to add to as new ideas arise. If students are hesitant to add ideas name a few of your considerations to get the process going.
4. You can already see from this list that food choices are complicated and there are many potential factors involved. There is no such thing as "correct" or "right". We have selected four potential considerations to focus on this week: Health & Nutrition, Environment, Justice & Labor, and Cost & Access. Today we'll be looking at Health & Nutrition.
5. *Student poll*: Who has had some form of nutrition education before? This may have been in school, at home, or by way of information that you've seen, heard or read.
6. *Think-Pair-Share*: Turn to a neighbor and in 30 seconds, try to list as many things as you can that you have heard about food, nutrition and health. You may or may not agree with these things. Walk around the room and observe and listen as students talk.
7. There is a lot of information out there! Many of the things you've heard probably seem contradictory. I'm not going to add to that information. Instead, today I want to share a little of my perspective - how I've come to navigate thinking about my health when I make food choices. I'm not sharing because I want you to think the way I do or because I think that my way of defining health is "correct". My hope is that hearing my perspective may be useful as you continue to develop your own personal understanding of health.
8. Share a personal anecdote that illustrates an approach to health and nutrition that prioritizes long-term balance and emotional well-being as opposed to making every individual food choice "perfect".
    a. Nick: I'm going to start by telling you that I love the Nacho Cheese Chalupa from Taco Bell. For me, there is absolutely nothing like the gooey chewy cheesy crispy phenomenon that is the Taco Bell Chalupa with nacho cheese. And many of you are looking at me right now like, "You can't say that! You're a Chef Teacher at the Edible Schoolyard! You can't like Taco Bell!" And I'm telling you I can, and I do. I love Taco Bell.
    b. I also don't eat there every day. As you saw with this list we made, there are many different considerations that may go into choosing what to eat. For me, Taco Bell is absolutely delicious so it definitely hits my 'taste' standards. It's also quick and easy to get, convenient, and cheap. It doesn't hit my standards for environmental impact, animal welfare, or how it impacts people who work in the food system, and it's definitely not top of my list for health and nutrition.

   c. But I try not to worry about having each single food choice I make hit every consideration - that's just too much. Instead, I try to think about balancing my considerations over the long-term. Overall, health and nutrition is important to me, so I wouldn't eat Taco Bell for every meal. But I also wouldn't want to never eat a food that brings me so much joy taste-wise simply because it doesn't fulfill all of my standards. I think about long-term balance, not short-term perfection.
9. Break down "healthy"/"unhealthy" and "healthy"/"delicious" binaries: When I'm making food choices, I also don't like to label a food "healthy" or "unhealthy". If I do this, I inevitably feel shame or guilt when I eat a food that I've labeled "unhealthy". I don't want this in my relationship to food. Nor do I believe that "healthy" food and "delicious" food are polar opposites. I think there's a ton of food that is both healthy and delicious, and I try to spend most of my time eating in that zone. Overall, I want the food I eat to bring health to my body, and I also want to feel happy and good while I'm eating - to cultivate a healthy relationship to food.
10. Introduce recipes for the day: Red Lentil Stew and a Spiced Coleslaw. When I was walking around the room, I heard a lot of people talking about "this food is bad for you" or "that food will make you sick", and not as many people sharing information they'd heard about foods being good for you or health-giving. I think this is very representative of the dominant food culture in the US. We have a lot of negative framing around food that focuses on limiting how much we eat things that we think will do us harm. We chose to make two recipes from Indian cuisine today because there is a radically different approach to food in Ayurveda, a traditional medicine practice from the Indian subcontinent. Ayurvedic thought around nutrition sees foods as health-giving in different ways, and as nourishing not just our bodies, but also our minds and spirits. We aren't going to go in depth into that as we are no experts. Rather we wanted to share prepare this food today as an introduction into that positively framed relationship to food and health and nutrition.
11. Ask students to wash their hands and go to their table groups.

Debate Plate

In this six-part 8th grade humanities lesson series, students discuss and reflect on the factors and considerations that influence personal food choices; consider the impacts of food choices on personal well-being, the environment, and other people; and debate the questions, complications, and paradoxes associated with the what's, how's, and why's of food choices.

1. **Introduction to Food Systems and Choices** *(in the academic classroom)* - Students read and discuss an article about the Mandela Foods Cooperative (MFC), a small community-run grocery store in West Oakland. Using MFC as a case study, students analyze and discuss the intersections of health, environment, labor, economic inequality, and food access.

2. **Health & Nutrition** - Students make red lentil stew and spiced cabbage slaw and reflect on how their own understandings of health and nutrition impact their relationship to food and food choices. At the table, they debate whether or not the government should regulate what kinds of food may be served for school lunch based on health and nutrition guidelines. If so, how should those health and nutrition guidelines be decided and who should create them?

3. **Environment** - Students make frittata and salad with their choice of salad dressing, and discuss the relationship between food choices and the environment with a specific focus on water use and food waste. At the table, students share stories of people in their lives who practice thrift or avoid waste.

4. **Labor & Justice** *(in the academic classroom)* - Students watch a short video about the 2010 fight by the Coalition of Immokalee workers for a penny more per pound of tomatoes picked, and read an article that describes where consumer food dollars go in the food system. Students make posters that synthesize the information, and discuss the roles consumers, government officials, and food system workers play in working for a more just food system.

5. **Labor & Justice** - Students make broccoli macaroni and cheese and lemonade, and compare the proportion of consumer dollars that go to different players in the food system for from-scratch and boxed macaroni and cheese options.

Students analyze and discuss the differences between mac and cheese options, and debate the role consumer responsibility should play in food choices.

6. **Cost & Access** - Students make vegetarian chili and cornbread, consider the many forms of food access, and discuss how cost and access impact food choices. Students debate whether access to food that is good for you, good for the environment, and good for other people currently is a right, privilege, or responsibility, and what it should be.

Silk Road Chef Meeting

Overview

This 7-minute historical narrative is told at the beginning of the first 90-minute cooking class in a four-lesson 6th grade series that explores the history of the Silk Road in China, India, and Rome. This story introduces students to standards-based history content while inviting their curiosity and interest in the history of the Silk Road. As the first Chef Meeting in the four-lesson Silk Road series, this Chef Meeting also sets the tone for longer periods of listening during the series than students have been accustomed to in previous kitchen classes.

Chef Meeting Notes

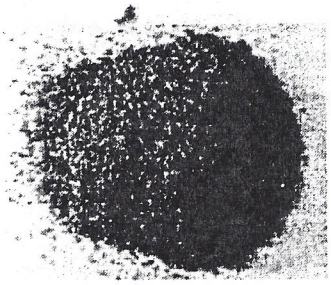
1. Today we are starting a four-lesson series in which we'll be talking about the Silk Road. Could someone help us out - what do I mean when I say the "Silk Road"? What do you know about the Silk Road already?
2. The Silk Road was an ancient trading route that stretched 4000 miles, all the way from China to Rome. It started more than 2000 years ago, and lasted for almost 1000 years. It existed in a time before trains, planes, cars, phones, computers, and email, and so the goods, religions, ideas, and food traded along the Silk Road were all carried by foot or animal. Over the next four lessons, we'll be traveling along the Silk Road - from China, to northern India, to Rome - and cooking foods that were found along the Silk Road in each of those regions. Today I'm going to tell you a story about how the Silk Road started in China. Part of this story is also how the dumpling made it to China - even though dumplings are a very popular and important food in Chinese culture today, dumplings have not always been eaten in China. The beginning of our story takes us back 2000 years ago to 150 B.C. in Imperial China.
3. Tell the story of how the Silk Road began in China: This story involves three groups of people - the Chinese, Xiongnu and Yuezhi - and begins more than 2000 years ago, in 198 B.C.. Back at this time, the Chinese Empire was very geographically isolated by the Pacific Ocean to the East, the Himalayan, Kunlun, and Karakoran Mountains to the West, and the Taklimakan and Gobi Deserts to the Northwest. The Chinese only had extensive contact with one group - the Xiongnu (now known as the Huns). The Chinese and Xiongnu had territorial conflicts in modern-day Northern China. In 198 BC Chinese Emperor Gaozu gave his daughter to the Xiongnu and began to pay an annual gift in gold and silk to make a treaty. But the treaty wasn't honored and the attacks on the Northern border continued. The Chinese launched an attack on the Xiongnu but lost miserably. In 138 BC Emperor Wudi sent Zhang Qian and an envoy of 100 men to try to make an alliance with the Yuezhi people. They got captured by the Xiongnu and held for 10 years, but eventually escaped and make it to Northern India where they found the Yuezhi. The Yuezhi (now the Kushan) refused to ally with the Chinese against the Xiongnu. They were not interested in revenge and had become trading people. They wanted to

maintain peace. On their way back to China, Zhang Qian and his men saw “heavenly horses” native to Central Asia. They wanted to obtain these horses because they believed that these huge horses would strengthen their army so that they could face the Xiongnu.

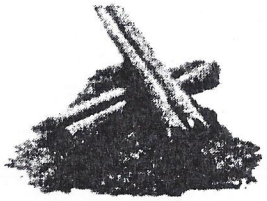
4. Prompt students to reference the visual aid: What were some items the Chinese may have traded for these horses? What made silk especially valuable as a trading item? It was light-weight, packable, couldn't break, and only the Chinese knew how to make it.
5. They exchanged a variety of goods for the horses (silk was the most valuable and sought-after), built up their army, and eventually secured their northern border, ensuring safe passage along the Gansu Corridor for continued trade - this was the beginning of the Silk Road.
6. Dumplings were originally a food developed by the Xiongnu and other nomadic people of Central Asia. Their importance in Chinese culture is evidence of the cultural exchanges that occurred even between peoples at war. Today we are making a Chinese version of the dumpling, with tofu, vegetables, soy sauce, and hoisin sauce.
7. Next lesson we'll be continuing this story, moving West to Northern India, and looking at the history of the Silk Road there.
8. Are there any questions?
9. Wash your hands and split up into your table groups.

Spices from the Silk Road

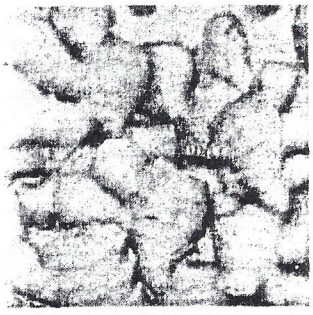
The spices found in the east were arguably the items in the highest demand for merchants buying exotic goods along the Silk Road. Spices were used as preservatives before refrigeration was available and also served as valuable flavor enhancements and medicines. Spices from India and lands farther east, changed the course of world history. It was in part the preciousness of these spices that led to the European efforts to find a sea route to India and consequently to the European colonial occupation of countries in the East, as well as the European discovery and colonization of the Americas. Below is a description of five popular spices traded along the Silk Road.



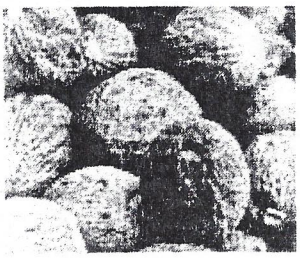
Black Pepper commonly referred to as "peppercorn" is native to South India. It has been used as a spice in India since prehistoric times. Peppercorns were a prized trade good along the Silk Road, often referred to as "black gold" and used as a form of money. The 5th century *Syriac Book of Medicines*, prescribes pepper for such illnesses as heart disease, insect bites, joint pain, lung disease, sunburn, and toothaches. Even today, peppercorns are the most widely traded spice in the world accounting for 20 percent of all spice imports. Vietnam has recently become the world's largest producer and exporter of peppercorns farming approximately 85,000 tons of peppercorns a year.



Cinnamon was so highly prized among ancient nations that it was regarded as a gift fit only for monarchs. Cinnamon is a small evergreen tree that grows to be about 30 - 50 feet tall and is native to Sri Lanka and South India. The spice is from the thin inner bark of the tree. Cinnamon bark is one of the few spices which can be consumed directly. All of the powdered cinnamon sold in United States is actually Cassia, a closely related species to cinnamon. "True cinnamon" is available commercially only in stick form. Cinnamon traded along the Silk Road had a reputation as a cure for the common cold and was also used to fight bad breath.

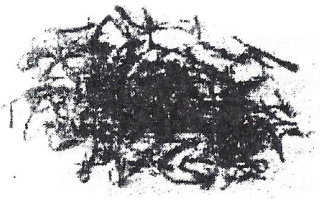


Ginger has a long history of cultivation known to originate in China and then spread to India, Southeast Asia, West Africa, and the Caribbean. Besides being used throughout the world for cooking, ginger is also well known for being used to disguise the taste of medicines. Ginger may also decrease joint pain from arthritis and treat nausea caused by seasickness, morning sickness and chemotherapy



Nutmeg is a seed from an evergreen tree that grows throughout the tropical regions of southeast Asia. The first harvest of the nutmeg trees takes 7–9 years after planting and the trees reach its full potential after 20 years. It is known to have been a prized and costly spice in medieval cuisine. In Elizabethan times, it was believed that nutmeg could ward off the plague and was very popular. At one time, nutmeg was one of the most valuable spices in the world. In England, several hundred years ago, a few nutmeg nuts could be sold for enough money to enable financial independence for life.

Dadah



Saffron is a spice derived from the flower of the saffron crocus and is native to Southwest Asia. It was first cultivated in the vicinity of Greece. Most saffron is grown in a region from the Mediterranean in the west to Kashmir in the east. Today, Iran is the leading producer of the spice cultivating around 300 tons a year. Saffron, which comes from the stigma or stamen or the crocus flower, is the world's most expensive spice by weight. A pound of dry saffron requires 50,000–75,000 flowers, the equivalent of a football field's area of cultivation. Saffron is used in multiple ways. Threads are woven into textiles, it is ritually offered to divinities, and used in dyes, perfumes, medicines, and body washes. Saffron threads would be scattered across beds and mixed into hot teas as a cure for depression in ancient Rome. Persians' were known to use the spice as a drugging agent and aphrodisiac. During his Asian campaigns, Alexander the Great used saffron in his infusions, rice, and baths as a curative for battle wounds.

Written Response

Take some time to think about the spices that you read about. Write a **detailed paragraph** response on **one** of the following topics:

1. What personal connection do you have to these spices? (e.g. How are these spices used in your home? What is your favorite spice and why?)

2. How are the spices used today? (e.g. Can you think of any recipes that these spices are commonly used in?)

3. Summarize what you learned.

These five short paragraphs taught me a lot about how much of an influence spices used to have on the world, and still do. I had no idea that any form of seasoning except for salt had ever been used as currency, but peppercorn was so valuable it was called Black Gold! I also didn't know that spices were used as medicine. What really surprises me is how expensive nutmeg was during Elizabeth times. A few nuts sold could have 'set' for life! I also didn't know it was a seed from a type of evergreen tree. What is hard to believe for me, is how cinnamon isn't sold in America. All my life when I thought I was tasting cinnamon, It was really Cassia! However shocking that is, It is nowhere near as weird as the massive influence Saffron has. Greeks used it for a creative and romantic for depression.

Name: Christina :)

Ode: The Silk Road

Ode: The Silk Road

"Ode" comes from the ancient Greek word, *aeidein*, which means to sing or chant. An ode is a "poem in which a person expresses a **strong** feeling of love or respect for someone or something" (Merriam-Webster Dictionary).

Ode to an Olive

Oh Olive,
You are as precious to me as any gem,
With your beautiful, pure skin as smooth as silk
And as green as the grass in summertime.
I love your taste and the smell of your tender fruit
Which hides beneath your green armor.
Olive, sweet, tasty Olive,
How I love you so and my mealtimes wouldn't be the same
If you weren't in my life.
Oh Olive,
Nothing can compare to you, nothing at all,
You are food of the gods, a king's riches
And, most importantly, you are mine, oh Olive!
(https://www.youngwriters.co.uk/terms-ode)

On our Kitchen journey along the Silk Road we have had the opportunity to create delicious dumplings, a spicy curry, savory pasta and sweet rice pudding. You will write an ode in honor of either an ingredient or a dish that you enjoyed the most.

Your ode:

* Must be about ONE ingredient or ONE dish
* 7 - 10 lines long
* Can rhyme (every 2 lines, or every other line) or be irregular (no rhyme pattern or rhythm)
* Can have more than 1 stanza
* Must have a title.

(4)

Title: Ode to Rice Pudding

Oh Rice Pudding,
Only for you would I say:
You are like pearls as white as snow — great simile
Against a background almost transparent
Alive and warm, you are aglow — nice

Oh Rice Pudding,
Simplicity to make
Yet to happiness you are my guide
For when I am cold and hungry
Everything negative fades when you're at my side

today we are tasting: _____

OBSERVE THE PHYSICAL TRAITS OF EACH VARIETY TO COMPLETE THE TABLE

VARIETY	SIZE	COLOR	FLAVOR	THE TRAIT I WOULD SELECT FOR:

Use your favorite traits of each variety to create your own unique cultivar! My new cultivar would be called: _____

and it would have these traits: _____

today we are tasting: _____

ENGAGE YOUR SENSES!

VARIETY	What does it LOOK like?	How does it SMELL?	What is the TEXTURE? (How does it feel when you chew?)	What does it TASTE like?

My favorite variety was _____ because: _____

_____

Life is like a box of chocolates...

today we are tasting: _____

VARIETY	SENSORY DESCRIPTION (smell, taste, texture)	A SIMILE or METAPHOR that captures or illuminates the experience

today we are tasting: _____

VARIETY	DESCRIPTIVE WORD	SYNONYM for your descriptive word	ANTONYM for your descriptive word

MY favorite variety was _____ because it was _____

_____ and it was NOT _____.

CLEAN AS YOU GO

- WASH
- DRY
- PUT BACK

BEAUTY

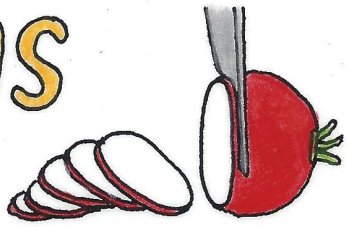
- FOR US NOW
- FOR PEOPLE COMING AFTER US

FOOD

- COOKING, SEASONING
- SHARING, FAIRNESS

FOCUS

- ON TASK
- TAKING INITIATIVE

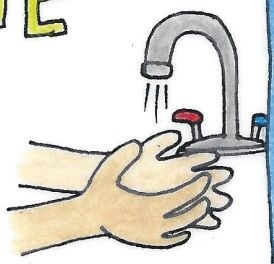


KITCHEN CLASSROOM

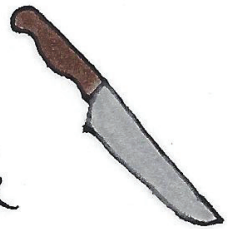
- KNOWLEDGE OF
- RESPECT OF

HYGIENE

- HANDWASHING
- TASTING

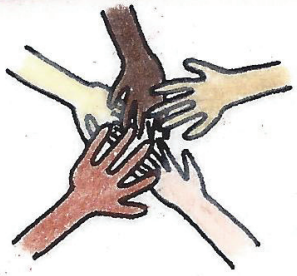


SAFETY



- WITH EACH OTHER
- WITH TOOLS & EQUIPMENT

PEOPLE



- INCLUSIVITY
- RESPECT & KINDNESS

WASTE

- FOOD
- WATER
- TIME

TOOLS

- USE
- CARE

Reflection Cards

The ESY Reflection Cards
We use Reflection Cards with our students to prompt reflection and self-evaluation on skills, norms, and behaviors that are important in the kitchen and garden classrooms. The goals of this resource are two-fold: first, providing students with opportunities to reflect and evaluate themselves on areas specific to our classrooms supports their continual development and success in our kitchen and garden classrooms. Second, self-reflection and evaluation are important skills with significant benefits that we believe can be developed through practice. We believe that much of the most valuable learning in an experiential classroom - and in life - happens through the process of reflection and evaluation. The Reflection Cards are designed to support and develop these life skills.

In the Kitchen
We use the Reflection Cards in different ways depending on the lesson, the group of students, and our goals for student learning. Sometimes we introduce specific Reflection Cards during a Chef Meeting or small group circle as a focus for that lesson. Other times we may ask students to select a card for the group to focus on during the lesson. Either way, we prompt students to generate a brief explanation of what the card means, or describe examples of how it looks in the context of the kitchen. At the end of class we lead a brief group reflection and discussion on how that skill was practiced or not during class that day.

Other times we may select a Reflection Card as a focus at the end of class. For example, perhaps we noticed that many of our students were forgetting to clean up their stations as they went, instead leaving all the cleaning to the last second. During mealtime or right before eating, we may pull the “Clean as you go” card from the deck and prompt the group to reflect on how they practiced that skill. We find that prompting students to reflect on their actions and behavior tends to result in far more thoughtful and meaningful learning than when we as teachers tell students that they haven’t done something as well as they could. We sometimes even use Reflection Cards in one-on-one interactions as a tool for prompting individual students to reflect on specific skills or behaviors.

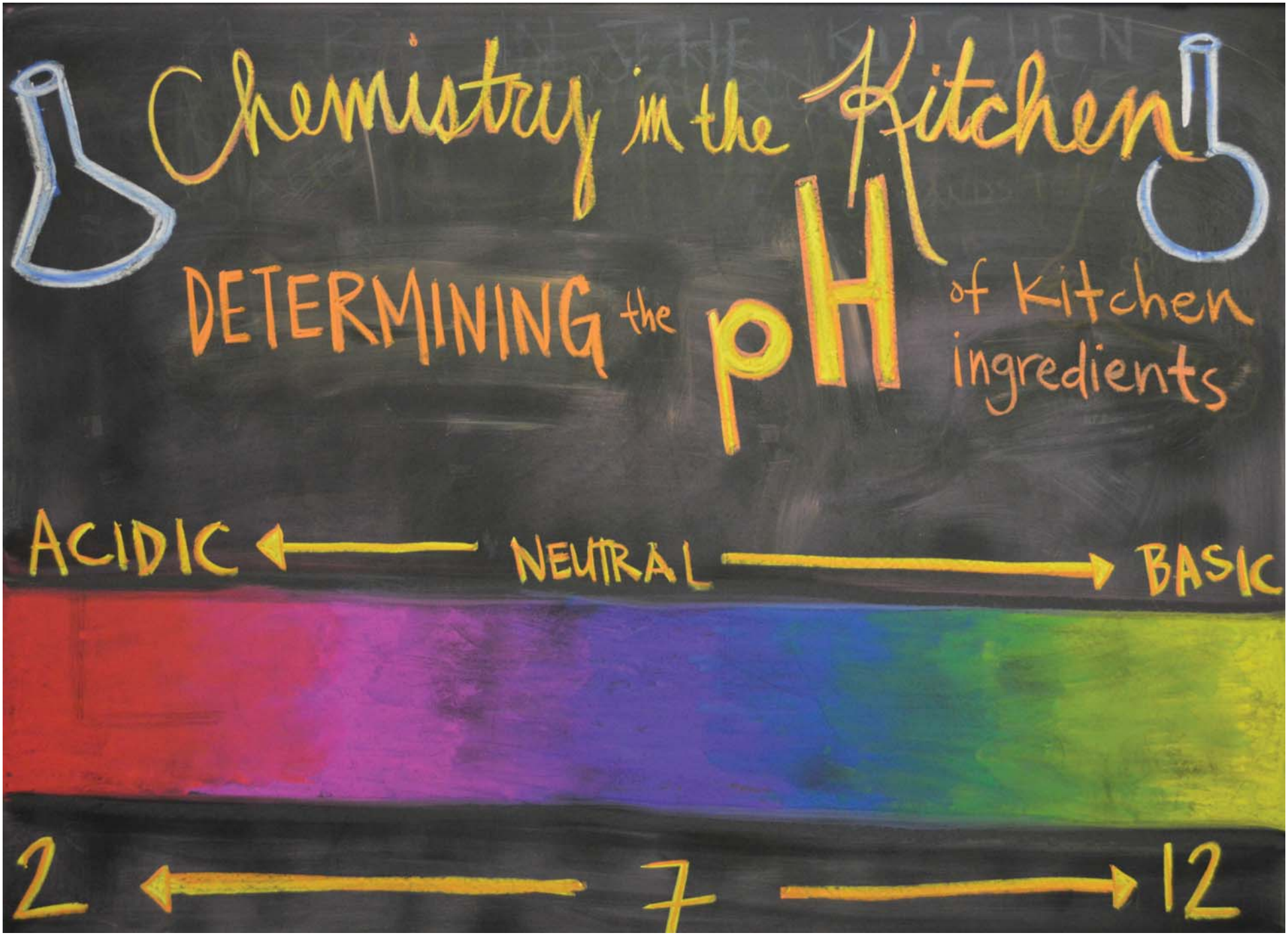
The Reflection Cards play a role in students’ experience throughout their three years in our program. They are always available for students to look at in the toolboxes at each table, and we have large versions of the Reflection Cards hanging in the kitchen as decorations to serve as a reference and reminder of expectations and goals for learning.

In the Garden

After we break out into groups and leave the Ramada one of the first things we do with our group is a 'Small Circle Check-in'. It's here that we have each student answer a "check-in" question which are provocative, fun and may not have anything to do with gardening. These questions can also relate to the lesson or theme of the day. Circling up as a small group is a great way to define yourselves as a team for the rest of class and is also a perfect opportunity to present the reflection cards.

- Ask a student to look/read through the set of cards and choose one that speaks to them as something we will watch out for today during garden class.
- After every student has had the opportunity to engage in the check in question return to that student to find out what reflection card they have chosen and ask them to read it out loud to the group.
- Explain that we're going to circle up briefly at the end of class to reflect on how we did as a group in relation the the card chosen. Example; If the student had chosen the 'Justice' card we would reflect on accountability, sharing and fairness.
- At the end of class engage students in a quick whip around activity where they share out how they saw (or didn't see) accountability, sharing or fairness show up for them during class that day.

We believe that much of the most valuable learning in an experiential classroom - and in life - happens through the process of reflection and evaluation. The Reflection Cards are designed to support and develop these life skills.


Chemistry in the Kitchen
DETERMINING the pH of kitchen ingredients
ACIDIC
NEUTRAL
BASIC
2
7
12

Kale Pesto and Ricotta
A pH lab in the Kitchen

Summary
In this 8th grade science lesson, students prepare Kale Pesto and Ricotta Cheese, and visit the pH Lab where they use cabbage juice as an indicator to test the pH of common kitchen ingredients and products.

Objectives
After this lesson, students will be able to:
- Identify properties of acids and bases
- Identify what a high number and a low number signify on the pH scale
- Use cabbage juice as an indicator to determine whether a solution is acidic, basic, or neutral

Assessments
During this lesson, students will:
- Make observations and look for evidence to inform a hypothesis as to whether a kitchen ingredient is acidic, basic, or neutral
- Test an ingredient at the pH lab and approximate a number on the pH scale
- Use cabbage juice as a pH indicator to test kitchen ingredients and products

Materials
For the Chef Meeting
- Kale Pesto recipe
- Homemade Ricotta recipe
- Ingredients and tools for demonstration
- Visual aid

Ingredients
- Baguette

For the Kale Pesto
- Almonds (or pumpkin seeds as a nut free option)
- Garlic
- Parmesan cheese
- Kale
- Lemon juice
- Salt
- Pepper

For the Ricotta

- Whole milk
- Heavy cream or whipping cream
- Lemon juice or white vinegar
- Salt
- Pepper
- Fresh herbs (optional)

Tools

- Serrated knife
- Cutting boards
- Sheet pan

For the Kale Pesto

- Mortar and pestle
- Cast iron skillet
- Stock pot
- Spider
- Mixing Bowls
- Paring knives
- Cutting boards
- Measuring cups
- Measuring spoons
- Reamer or juicer
- Cheese grater
- Rubber spatula

For the Homemade Ricotta Cheese

- Measuring cups
- Measuring spoons
- Stock pot
- Wooden spoon
- Reamer or juicer
- Sieve or fine mesh strainer
- Clean dish towel
- Mixing bowl

Equipment

- Stove

For the pH Lab

- A variety of kitchen ingredients and products (e.g. lemons, grapefruits, oranges, vinegars, liquid soap, baking soda, detergent, cream of tartar)

- A table
- White butcher paper
- Clear cups
- Measuring cups
- Measuring spoons
- Cabbage juice indicator
- Visual aid of the pH scale

Before You Begin

- Collect all the tools and ingredients, and then distribute them to the tables
- Gather supplies for the Chef Meeting
- Make the cabbage juice indicator
- Cover the table with butcher paper and draw a numerical pH scale
- Set up the kitchen ingredients and products for testing
- Create the visual aid
- Copy the Kale Pesto recipe to hand out
- Copy the Homemade Ricotta Cheese recipe to hand out

Procedures

At the Chef Meeting

1. Welcome students to the kitchen and explain that cooking is chemistry. Introduce the Kale Pesto and Ricotta Cheese recipes and explain the Kitchen pH Lab.
2. Review the numbers on the pH scale and how they correlate with acidity.
3. Explain what an indicator is and how it works. Demonstrate how cabbage juice will be used as an indicator to determine the acidity of common ingredients and products found in our kitchen.
4. Identify common characteristics of acids (taste sour, frequently liquid or gas) and bases (taste bitter, feel slippery, frequently solid). Explain that before they use the cabbage juice to test for pH, students will use their five senses to make observations and look for evidence to inform a hypothesis as to whether the kitchen ingredients and products are acidic, basic, or neutral.
5. Explain that students will take a break from their cooking to visit the pH lab. Divide students into their table groups and lead one of the tables to the pH lab for the first rotation.

At the Table

1. Meet with the table groups to review the recipes and assign jobs.
2. Prepare the recipes and set the table. While students are cooking, have small groups rotate through the pH lab.
3. Eat.
4. Clean up.

At the pH Lab

1. Gather students around the pH lab table and introduce the kitchen products and ingredients students will be testing.
2. Tell students to choose one of the kitchen ingredients or products to test. Using their senses to make observations, ask students to hypothesize where the ingredient or product will fall on the pH scale. If the chosen substances are edible, have students taste them to collect more evidence. Ask students to share the characteristics that informed their hypothesis (it was slippery, it was sour, etc).
3. Have the students measure 1/4 cup of cabbage juice indicator and pour it into a clear cup.
4. Have students mix 1 teaspoon of their kitchen ingredient or product into the cabbage juice indicator.
5. Observe for color change and compare the new color to the pH scale on the visual aid. Ask students to approximate a number on the pH scale for their ingredient or product.
6. Using the pH scale on the butcher paper, have students place their cup in the appropriate range.
7. Back at the table, review the hypotheses and discuss the results. Ask students to explain which senses they used to collect the evidence that informed their hypothesis.

At the Closing Circle
Ask students to share the kitchen ingredient they tested and whether it was acidic, basic, or neutral.

Connections to Standards
California State, Science, Grade 8
8.5.e Students can determine whether a solution is acidic, basic, or neutral.
8.9.a Plan and conduct a scientific investigation to test a hypothesis.
8.9.c Distinguish between variable and controlled parameters in a test.

Common Core State Standards, ELA/Literacy, Grades 6-8
RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

Next Generation Science Standards
PS1.B: Chemical Reactions: Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants.

Contributors
All lessons at the Edible Schoolyard Berkeley are a collaboration between the teachers

and staff of the Edible Schoolyard and Martin Luther King Jr. Middle School.

Resources
Determining pH Visual Aid
Ricotta Cheese Recipe
Kale Pesto Recipe

Food Choice Consideration Cards

Description

The food choice consideration cards are one of the resources we use in our 8th grade Debate Plate lesson series to prompt self-reflection, critical thought and meaningful conversations. They are small, colorful cards that have a consideration someone might have when choosing what to eat (ex. Taste, Cost etc.) on one side, and a description of that consideration on the back (ex. "How a food tastes", "How much a food costs" etc.). There are 22 cards in each set. During the Debate Plate lesson series, students have the opportunity to arrange these cards in order of their own priorities when making food choices, and share their results with peers and teachers. This activity is done at any point during the class when a student has down-time, and may be done independently, in small groups, or as a teacher-facilitated activity with the full group.

Categories

The cards in our deck are:

- **Animal Welfare** – how a food or the processes involved in making it available to you impact animals
- **Appearance** – how a food looks
- **Availability** – how readily available a food is to you – how easy or difficult it is for you to get a hold of a certain food
- **Body Image** - the mental picture or image of your own body, and your thoughts, feelings, and emotions related to that picture or image
- **Cost** – how cheap or expensive a food is
- **Culture or identity** – what a food represents to you, or its connection to your culture or identity
- **Environment** – how the food or the processes involved in making it available to you impact the environment
- **Ease or convenience** – how easy and convenient it is to access or prepare a food, or the time and labor required to do so
- **Habit** – what you're used to eating (or not eating) – your familiarity or routines with a food
- **Health & Nutrition** – how a food impacts your health
- **Interpersonal relationships** – when you make decisions about what to eat based on the desires, needs, recommendations or preferences of others
- **Justice & Labor** – the wages, working conditions and rights of the people involved in growing, processing, distributing or preparing a food

- **Mood** – how your mood impacts what you want to eat (eg. feeling down and wanting to eat something comforting from your childhood)
- **Past experience** – the memories or nostalgia you associate with a food or eating experience
- **Personal image** - how you feel you are perceived by others when you are eating a certain food. What a food communicates to others about who you are
- **Season** – how the time of year impacts what you eat
- **Smell** – how a food smells
- **Sound** – the sound a food makes while you're preparing or eating it (eg. the crunch of biting a carrot or squeak of chewing certain cheeses)
- **Taste** – how a food tastes
- **Texture** – the physical feel of a food
- **Time of Day** – how the time of day impacts what you eat
- **Weather** – how the weather impacts what you eat (eg. hot soup on a cold day)

Example Prompts

Prompts or questions we may ask students to consider:

1. What are your priorities?
2. What are different situations in which your priorities change? How?
3. Choose a friend or family member who you think has different priorities from you? What do you think their priorities are?
4. What were your priorities in elementary school? How do you think they'll change as an adult?
5. How do you think Berkeley School District organizes their priorities for school lunch? If you were in charge of creating school lunch for the Berkeley Unified School District, how would you order these considerations?
6. You're babysitting someone younger than you and you're responsible for making them dinner. What would be your order of considerations?
7. You're on a first date and you're cooking something for your date. What would be your considerations?

The Edible Schoolyard Workplace Culture

Our Mission

To promote Edible Education through implementing a whole-child educational model which teaches life skills, academics, citizenship, environmental stewardship, and health in a one-acre garden and kitchen classroom

Our Strategy

Through teamwork, experience, and innovation we develop, test, document, and evaluate lessons and best practices. We document and share everything we learn online and in our professional development trainings.

Culture Principles

1. MISSION AND STRATEGY IS THE METRIC: In every decision our mission and our specific objectives are our key consideration.
2. PROFESSIONALISM: While our style as individuals and as team might be easy going, our attitude towards our work is extremely professional - we seek to maintain the highest standards of quality, depth of delivery, productivity, and effectiveness.
3. WE HAVE FUN!: We bring positivity, joy and laughter to our work with each other. We get our jobs done, we do great work, and we have an incredible amount of fun doing it. We also respect the power of the reset button :).
4. WE WORK COLLABORATIVELY: We aim to have transparency and openness. Every team member is able and encouraged to weigh in and contribute to ideas and decisions. The team respects decisions, regardless of initial personal views, and endeavors to implement them with excellence.
5. WE ARE ALL STUDENTS: We approach our work with humility and the recognition that sometimes failure is the best teacher. We value curiosity, experimentation, and messy thinking.
6. CHERISH FEEDBACK AND OFFER IT RESPONSIBLY: We believe in iterative learning and professional growth. When we give feedback, we do so constructively and kindly.
7. RESPECT AND KINDNESS: We respect and care for each other and our community. We are thoughtful and aware of how we impact others.
8. WE ARE COMMITTED TO DEVELOPING OUR CULTURAL HUMILITY: Individually and organizationally, we explore the impact of culture and identity on the schooling experience, examine the influence of race, power, and privilege on the educational process, and seek culturally responsive pedagogy and practices to ensure access for all students, especially those historically underserved by the educational system. We engage families as collaborators in this process and aim to create physical and emotional spaces that reflect and celebrate the diversity of our community.

9. WE CELEBRATE THE POWER OF FOOD: Food connects people, places, ideas, and the natural world. We recognize the richness of food in its complexity and seek to learn about our own and others' relationships to food with curiosity and an open mind. We believe food sustains body and spirit. We champion food that supports the wellbeing of farmers, communities, and the planet.

Norms of Collaboration: Tools for productive communication between group members

Pausing
Pausing is based on "wait time" research indicating higher-level thinking takes three to five seconds and the time changes quality of thinking. Four kinds of pausing allow this processing. The first is after a question is asked. The second is after someone speaks. A third type is under the control of the speaker. "Give me a moment and I will answer." The fourth type of pause is a collective pause formally structured by the group. Some pauses are decided by the group and some initiated individually.

Paraphrasing
Paraphrasing is one of the most valuable and least used communication tools in meetings. A paraphrase can be used effectively with a question. First paraphrase, and then ask a question. Practice this skill and notice what happens to the dynamics of the conversation. Paraphrasing aligns the parties and crease a safe environment for thinking. Levels of paraphrasing may include any of the following: clarify speaker statement; summarize what was said; or shifting what was said to include an overarching purpose.

Putting Ideas on the Table
Ideas are the heart of group work. In order to be effective, they must be released to the group. "Here is an idea for consideration," or "I am putting this idea on the table." It is equally important to know when to remove an idea from the table. Use signal words such as "I think this idea is blocking our thinking and I want to remove it from the table." When ideas are "owned" by individuals, other group members' responses tend to reflect their feelings toward the speaker, and may not be specific to the ideas presented.

Paying Attention to Self and Others
Meaningful dialogue and discussion is facilitated when each group member is conscious of oneself and others. This consciousness includes being aware of your own and others posture, gesture, and other non-verbals. Paying attention to self and others could include the amount of talking, the amount of silence, or responding to others' information delivery or language style.

Presuming Positive Intent
Assuming that others' intentions are positive encourages honest conversations about important matters. Positive presuppositions reduce the possibility of the listener perceiving threats and challenges in a paraphrase or question. Group members can signal this by saying: "Presuming positive intent, I'm thinking that..." Our emotional processors are sensitive to signals for positive intentions, and can engage our higher-level thinking and openness to new ideas as a result.

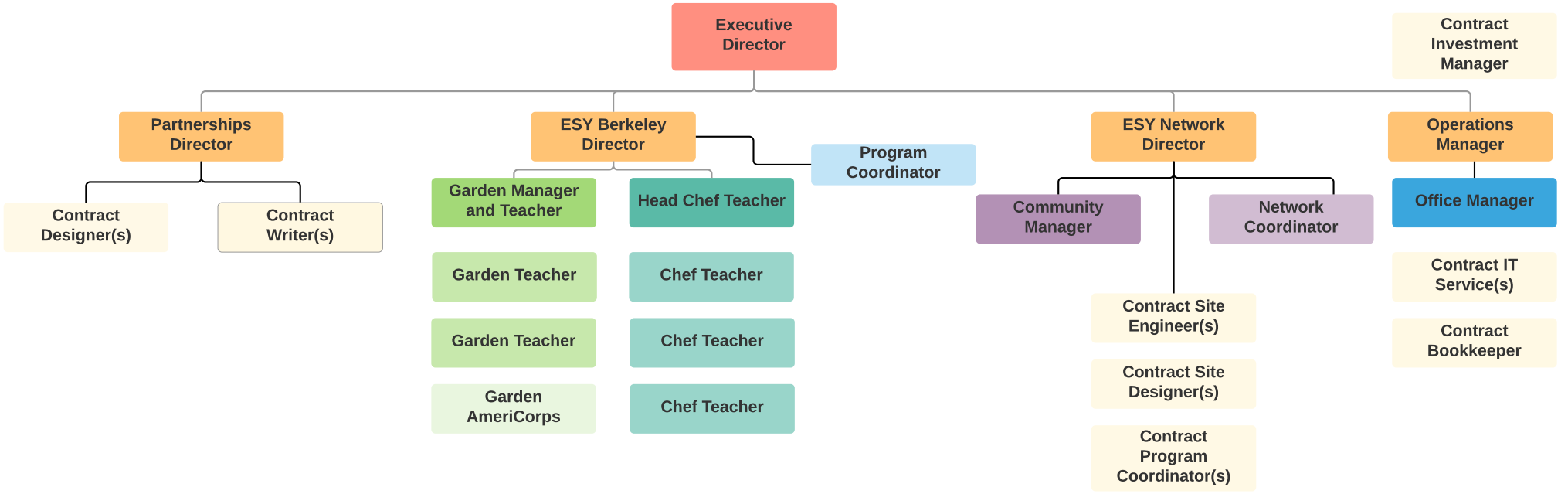
No one knows everything, together we know a lot
In any conversation, especially ones about systemic power (be it race, class, gender, etc.), we know that each person is coming to the conversation with different levels of lived experience and embodied expertise. We also believe that each person has something to contribute to the conversation. This agreement ask that we all practice being humble, and look for what we have to learn from each person in the room. It also means we all have a responsibility to share what we know, as well as our questions, so that others may learn from us.

Acknowledge the difference between intent and impact
We have noticed that overwhelmingly, when someone does or says something that causes harm, or supports the values of systemic power, it is not their intention to do so. We also have seen that a person denying the harm they have caused because they were well intended often causes more harm. The ask is that we each do the work to acknowledge that our intent and the impact of our actions are two different things, and to take responsibility for any negative impact we have. (This can be as simple as apologizing.)

Probing for Specificity
Human brains are not always designed for specificity. We often form quick generalizations from fragments of information. These quick judgments based on assumptions can cause difficulties in communication. Five areas contributing to overuse of generalizations are vague nouns and pronouns, vague action words and comparators, rule words and universal quantifiers. Probing action asks members to remove the generalization and cite the exact data.

Pursuing a Balance Between Advocacy and Inquiry
Try to spend equal amounts of time and energy advocating for one's own ideas and inquiring into the ideas of others. Creating a balance of advocacy and inquiry requires both emotional and cognitive resources. This balance is most necessary at the exact point when many group members are least likely to want to inquire into the ideas of others. It is at the moment of greatest disagreement that this norm makes the biggest difference for productive communication.

EDIBLE SCHOOLYARD PROJECT STAFFING



Garden Responsibility Matrix

	Teaching	Garden	Communication and Outreach	Lesson Development & Documentation	Leadership and Management
Garden AmeriCorps Member	● Teach ESY garden classes ● Teach one after school class each Spring ● Support HSI	● Maintain tool shed ● Attend to current garden tasks (see back) ● Lead weekly weeders	● Maintain an awareness of and actively participate in ESY events, school events and relevant community events ● Participate in ESY staff meetings and professional development	● Collaborate with garden staff in the development of garden lessons that are integrated with classroom teaching, ESY standards, and academic standards	
Garden Teacher	● Teach ESY garden classes ● Teach one after school class each Fall (rotate)	● Attend to current garden tasks (see back)		● Assist with development and documentation of lessons	● Manage garden volunteers
Garden Manager and Teacher	● Teach ESY garden classes	● Oversee all garden production ● Maintain facility and equipment ● Collaborate with Garden Consultant ● Order and organize seeds	● Oversee Plant Sale ● Represent ESY in public, for interviews, and at meetings and conferences	● Meet with King staff before and after garden rotations ● Oversee garden lesson development ● Oversee Academy lesson development	● Manage garden staff ● Facilitate weekly garden staff meetings ● Oversee garden budget ● Ensure consistent communication with kitchen

Garden Tasks

The Garden AmeriCorps and two garden teachers all maintain a certain "domain" of the garden for the course of a school year. These tasks ensure the most efficient use of staff time, while providing an opportunity for staff members to deepen their understanding of one particular area of focus. Because the domains rotate each year, over time all garden teachers will manage all domains.

Compost	**Animal Care & Maps**	**Greenhouse**
● Maintain compost ● Maintain tool shed	● Maintain, clean, and repair bird coop ● Feed animals	● Maintain greenhouse ● Research and implement pest management

Kitchen Responsibility Matrix

	Teaching	Kitchen	Communication and Outreach	Lesson Development & Documentation	Leadership and Management
Chef Teacher #1	• Teach ESY kitchen classes • Teach one after school class each Fall	• Daily maintenance • Assist with food preparation for special events	• Maintain healthy relationships with ESY & King staff and wider community	• Collaborate on development & documentation of lessons • Video Production • Ensure lesson, recipe, visual aid documentation internally and online	• FNO • Kitchen Volunteers • Summer Camp • Interns (teaching)
Chef Teacher #2	• Teach ESY kitchen classes • Teach one after school class each Spring	• Daily maintenance Assist with food preparation for special events	• Maintain healthy relationships with ESY & King staff and wider community	• Collaborate on development & documentation of lessons • Video Production Ensure lesson, recipe, visual aid documentation internally and online	• After School Classes • IWES • Oversee bulk purchasing
Head Chef Teacher	• Teach ESY kitchen classes	• Oversee and coordinate all facility and equipment maintenance • Coordinate garden plantings with GMT	• Maintain healthy relationships with ESY & King staff and wider community • Represent ESY in public, for interviews, and at meetings and conferences • Oversee special events	• Meet with King staff before and after kitchen rotations • Oversee kitchen lesson development • Oversee Academy lesson development	• Manage kitchen staff and interns • Facilitate weekly kitchen staff meetings • Oversee kitchen budget Ensure consistent communication with garden
	Teaching			**Administrative**	
Family Class Coordinator	• Design and teach family cooking classes • Develop a robust and multi-faceted outreach strategy			• Work with King teachers and administrative staff to build support for and connections to family cooking	

	• Teach daily kitchen classes for 6th, 7th, and 8th grade students	classes at the Edible Schoolyard • Evaluate the relevance and effectiveness of FNO

Office Responsibility Matrix

	Teaching	Office	Communication and Outreach	Leadership and Management
Program Coordinator	• Teach one after school class each Fall • Substitute for ESY teachers as needed • Teach at Academy	• Maintain ESY calendar and schedule • Organize events • Organize staff meetings • Manage office supplies, IT, and organizationß	• Communicate with King staff • Train and manage volunteers • Give public tours • Answer public inquiries	• Organize annual ESY Plant Sale • Hire, train, and supervise office interns

	Staff Management	Program Development and Management	Outreach	Finance
Director	• Manage all ESY staff, interns, and AmeriCorps members including conducting employee reviews, and working with ESYP to: update job descriptions and human resource materials, hire staff, and assign program responsibilities • Facilitate weekly ESY staff meetings and monthly ESY/ESYP staff meetings	• Develop and implement long-term vision • Oversee curriculum development and integration of academics into the ESYB • Identify and produce program replication tools for distribution to a national audience • Oversee the planning and implementation of ESYP professional development offerings to include: the Academy, custom trainings, and partnerships	• Act as liaison and facilitate communications between MLK, ESYB, and ESYP staff • Lead private tours • Liaise with ESYP regarding scheduling of special tours for guests of ESYP/Alice Waters	• Collaborate with ESYP on fund-raising, grant writing, event planning, and donor cultivation • Oversee ESYB program budget

The Edible Schoolyard Director
Job Description

Position Description
The Edible Schoolyard Director (hereafter, the "Director") is responsible for the leadership, development, and management of the ESY program. (S)he manages a staff of 10-12 people and works closely with the Edible Schoolyard Project, where some aspects of ESY's administrative work are handled, including accounts payable and human resources. (S)he serves as the public face and chief representative of ESY to the media and at conferences and other events, oversees curriculum development for Edible Education and professional development trainings. (S)he works closely with the ESYP development team on fundraising to ensure the long term sustainability of the program.

Duties include but are not limited to:
Staff Management
- Manage all ESY staff, interns, and AmeriCorps members including conducting employee reviews, and working with ESYP to: update job descriptions and human resource materials, hire staff, and assign program responsibilities
- Facilitate weekly ESY staff meetings and monthly ESY/ESYP staff meetings
- Coordinate – as appropriate - participation in King all-staff, grade level & department meetings
- Conduct and/or oversee annual staff performance reviews
- In tandem with Garden Teacher/Manager recruit/hire AmeriCorps member; ensure that reporting practices and participation in BAYAC trainings/activities are in compliance and strictly adhered to.
- Recruit and hire staff on an as needed basis

Program Development & Management
- Oversee the development of materials that integrate the principles of Edible Education into core academic subjects
- Work in collaboration with ESYB and MLK staff on the integration of academics into the ESYB program curriculum
- Work with ESYP and ESYB staff to identify and produce program replication tools for distribution to a national audience
- Maintain awareness of King School operating systems, events, issues and culture; initiate relationships with King administration, faculty and students.
- Maintain awareness of the myriad components of the Chez Panisse Foundation, Alice Waters office; public school, civic, and national developments around like-program best practices, and school lunch
- Oversee the planning and implementation of ESYP professional development offerings to include: the Academy, custom trainings, and partnerships

Outreach and Community/School Relations

- Act as liaison and facilitate communications between MLK, ESYB, and ESYP staff
- Lead private tours
- Liaise with ESYP regarding scheduling of special tours for guests of ESYP/Alice Waters
- Liaise with ESYP regarding scheduling of media visits. Coordinate with King teachers as needed
- Manage coordination of events and activities, as well as outreach materials, pertaining to: annual plant sale, special classes, summer program, community events, public offerings, and volunteer work days

Communications

- Maintain ESYB website and communications in collaboration with ESYP staff
- Represent ESYP at conferences and workshops
- Communicate with neighbors and the wider school community regarding any concerns or inquiries about ESYB
- Collaborate with ESYP staff on media interviews and special tours
- Create public relations and outreach materials

Fundraising and Finance

- Collaborate with ESYP on fundraising, including but not limited to grant writing, event planning, and donor cultivation
- Develop and manage ESYB program budget annually and review with ESYP quarterly

The Edible Schoolyard Garden Manager and Teacher Job Description

Position Description
The Garden Manager and Teacher oversees all aspects of the one-acre, organic Edible Schoolyard garden. S/he designs and conducts daily garden classes for 6th, 7th, and 8th grade students, facilitates lesson and garden planning, and guides the garden staff in the development and maintenance of a productive and educational garden. The Garden Manager and Teacher reports to the Director.

Duties include but are not limited to:
Teaching
- Design and conduct daily garden classes for 6th, 7th, and 8th grade students
- Guide students in general maintenance of the garden with specific focus on compost, harvest, propagation, and cultivation
- Mentor individual students in and out of class, model respect and curiosity for learning, and encourage students' interests and talents
- Design and conduct lessons for adults participating in the annual Edible Schoolyard Academy and for students participating in the Edible Schoolyard summer program

Lesson Development and Documentation
- Collaborate with garden staff and King classroom teachers in the development of garden lessons that are integrated with classroom teaching, ESY standards, and academic standards
- Collaborate with the ESY Director in the documentation off all ESY lessons
- Oversee the documentation of garden maps, harvest totals, and garden history

Garden
- Manage the garden at a level of production that ensures ample produce to the ESY kitchen, King community giveaways and special events
- Manage propagation and greenhouse work, soil fertility, composting, crop rotation, garden planning, pruning, irrigation, pest and disease management and animal husbandry
- In collaboration with the garden staff, maintain and develop one of the four rotating garden responsibility areas: compost, propagation, animal care, and lesson development
- Manage maintenance of garden facilities and equipment - tool shed, chicken coop, greenhouse, irrigation system, lawn mower, weed whacker, Rototiller, and all hand tools
- Facilitate weekly garden staff meeting to identify and prioritize garden work, class preparation and other relevant tasks
- Ensure the maintenance of ESY seed library
- Collaborate with Garden Consultant on garden staff development and long-term garden projects

- Oversee the planning and implementation of growing plants to sell at the annual Plant Sale fundraising event
- Oversee seed ordering, soliciting seed donations, and organization of ESY seed library
- Work independently during the summer to maintain the garden

Communication, Outreach, and Grant-Writing

- Participate in ESY staff meetings and professional development
- Maintain healthy relationships with ESY staff, King teachers and administrative staff, students, parents, neighbors, school garden and kitchen educators and ESY affiliates
- Maintain an awareness of and actively participate in ESY events, school events and relevant community events
- Schedule and facilitate pre- and post-rotation meetings with King teachers regarding curriculum and lesson planning
- Communicate weekly garden meeting notes to ESY Director
- Organize grade-specific family work parties in the garden
- Contribute regularly to the online ESY journal
- Represent ESY program to the wider community, e.g., public speaking engagements and attendance at meetings and conferences
- Ensure the garden staff applies for an annual Berkeley Public Education Foundation (BPEF) grant and other grants, as appropriate

Management

- Provide consistent, positive leadership – hire, train, and supervise garden staff in conjunction with ESY Director
- Oversee the garden AmeriCorps hiring and management process
- Perform yearly hiring and management of seasonal garden interns
- Participate in interviews and hiring decisions for other ESY staff positions as needed
- Ensure an engaging and rewarding experience for garden volunteers and supervise volunteers' work in the garden
- Maintain a working knowledge of the garden budget and budget management
- Work closely with ESY Director in the development of the annual work plan

The Edible Schoolyard Head Chef Teacher
Job Description

Position Description
The Edible Schoolyard Head Chef Teacher oversees all aspects of the Edible Schoolyard (ESY) kitchen. S/he designs and conducts daily kitchen classes for 6th, 7th, and 8th grade students, facilitates lesson planning and recipe development, and guides the kitchen staff in the development and maintenance of an interactive teaching kitchen. The Head Chef Teacher reports to the Director.

Duties include but are not limited to:
Teaching
- Design and conduct daily kitchen classes for 6th, 7th, and 8th grade students
- Guide students through all aspects of kitchen lessons to ensure skills and values development, understanding of seasonality, and connections to curricular studies
- Mentor individual students in and out of class, model respect and curiosity for learning, and encourage students' interests and talents
- Prepare dishes using fresh, seasonal produce grown by students in the ESY garden
- Design and conduct lessons for adults participating in the annual Edible Schoolyard Academy and for students participating in the Edible Schoolyard summer program
- Collaborate on high school internship to run kitchen classes for each session

Lesson Development and Documentation
- Collaborate with kitchen staff and King classroom teachers in the development of kitchen lessons that are integrated with classroom teaching, ESY standards, and academic standards
- Collaborate with the ESY Director in the documentation off all ESY lessons
- Develop lessons and recipes to maximize use of seasonal produce grown in the ESY garden
- Oversee the documentation of recipes, visual resources and kitchen history

Kitchen
- Coordinate maintenance of kitchen facilities and equipment – dishwasher, freezer, refrigerator, oven, mixers, stoves, sinks, storage, cooking equipment, serveware, and all hand tools
- Facilitate weekly kitchen staff meeting to identify and prioritize kitchen maintenance, class preparation and other relevant tasks
- Ensure the procurement of ingredients for kitchen classes as well as staff meals
- Collaborate with the Director on kitchen staff development and long-term kitchen projects
- Oversee the planning and implementation of food preparation to sell at the annual Plant Sale fundraising event
- Maintain the red kitchen domain

Communication, Outreach, and Grant-Writing

- Participate in ESY staff meetings and professional development
- Maintain healthy relationships with ESY staff, King teachers and administrative staff, students, parents, neighbors, school garden and kitchen educators and ESY affiliates
- Maintain an awareness of and actively participate in ESY events, school events and relevant community events
- Schedule and facilitate pre- and post-rotation meetings with King teachers regarding curriculum and lesson planning
- Communicate weekly kitchen meeting notes to ESY Director
- Organize the food for grade-specific family work parties in the garden
- Contribute regularly to the online ESY journal
- Represent ESY program to the wider community, e.g., public speaking engagements and attendance at meetings and conferences
- Ensure the kitchen staff applies for an annual Berkeley Public Education Foundation (BPEF) grant and other grants, as appropriate

Management

- Provide consistent, positive leadership – hire, train, and supervise kitchen staff in conjunction with ESY Director
- Oversee the kitchen AmeriCorps hiring and management process
- Perform yearly hiring and management of kitchen interns (if applicable)
- Participate in interviews and hiring decisions for other ESY staff positions as needed
- Maintain a working knowledge of the kitchen budget and budget management
- Work closely with ESY Director in the development of the annual work plan

The Edible Schoolyard Program
Coordinator Job Description

Position Description
The Program Coordinator (PC) is responsible for the administrative coordination of the Edible Schoolyard Berkeley (ESYB) program. He/she supports the planning and execution of a fast paced, innovative, and hands on educational program within a public middle school of 1,000 students. The PC assists the ESYB Director through a range of administrative tasks, project management and coordination. The PC reports to the Edible Schoolyard Berkeley Director.

Duties include but are not limited to:
Programmatic
- Schedule yearly ESY class rotations in garden and kitchen
- Maintain awareness of King School operating systems, events, issues and culture; initiate relationships with King administration, faculty and students; represent the Edible Schoolyard in King committee and staff meetings
- Maintain awareness of the myriad components of the Edible Schoolyard Project and ESYB; public school, civic, and national developments around like-program best practices, and school lunch
- Substitute in kitchen and garden classes on an on-going basis to support FNO and special projects
- Design, teach and document fall after school class
- Work in tandem with ESY team to develop long and short-term goals, explore opportunities for program innovation and integration; assess program strengths and opportunities for program improvement
- Support Edible Schoolyard summer programming

Volunteer Management
- Coordinate volunteers including screening, orientation, training and scheduling
- Update and distribute volunteer handbook, maintain weekly sign-in sheets and records binder
- Schedule volunteer orientation for each class rotation and track volunteer efficacy
- Keep volunteers appraised on relevant events and schedule changes
- Design and produce thank you cards and announcements as pertains to volunteers and visitors

Interns
- Recruit and hire program interns on an as needed basis
- Manage interns to provide administrative assistance on short and long term projects
- Manage interns to respond to information requests by mail, voice or email
- Manage interns to coordinate w/garden and kitchen for various projects

ESY Public Tours & Outreach
- Coordinate 'First Thursday' monthly public tours

- Maintain visitors database and records
- Facilitate outreach to the King parent, Berkeley and greater Bay Area communities
- Update ESYP Instagram blog, ESYP blog posts
- Schedule and conduct private tours based on availability

Project Management

- Coordinate - in tandem with ESY management staff - ESY activities and events including but not limited to:
    - Annual Plant Sale
    - ESY Academies
    - ESY Summer Session
    - School-wide events
    - Special ESY events: parent night, speaker series, etc.

Administrative

- Maintain ESY calendar; coordinate scheduling
- Respond to information requests by mail, voice, or email, on case by case basis
- Maintain office technology and act as tech support
- Establish and maintain organized and current computer and 'live' filing systems
- Collect and distribute office mail
- Maintain office and first aid supplies
- Assist with the administration of FNO and summer programming
- Support ESYP grant writing and fundraising efforts
- Create and maintain staff agendas, notes and archives
- Assist with new staff hiring and onboarding procedures

The Edible Schoolyard Garden Teacher
Job Description

Position Description
The Garden Teacher supports the Garden Manager and Teacher in all aspects of the one-acre, organic Edible Schoolyard (ESY) garden. S/he assists in designing and teaching daily garden classes for 6th, 7th, and 8th grade students, participates in lesson and garden planning, and works with the ESY garden staff to develop and maintain a productive and educational garden. The Garden Teacher reports to the Garden Manager and Teacher.

Duties include but are not limited to:
Teaching
- Design and conduct daily garden classes for 6th, 7th, and 8th grade students
- Guide students in general maintenance of the garden with specific focus on compost, harvest, propagation, and cultivation
- Mentor individual students in and out of class, model respect and curiosity for learning, and encourage students' interests and talents
- Design and conduct lessons for adults participating in the annual Edible Schoolyard Academy and for students participating in the Edible Schoolyard summer program
- Design and teach an after school class series once a year

Lesson Development and Documentation
- Collaborate with garden staff in the development of garden lessons that are integrated with classroom teaching, ESY standards, and academic standards
- Document and organize garden maps, harvest totals, and garden history

Garden
- In collaboration with the garden staff, maintain and develop one of the four rotating garden responsibility areas: compost, propagation, animal care, and lesson development
- Participate in propagation and greenhouse work, soil fertility, composting, crop rotation, garden planning, pruning, irrigation, pest and disease management and animal husbandry
- Meet weekly with garden staff to identify and prioritize garden work, class preparation and other relevant tasks
- In tandem with Garden Manager and Teacher,
- Coordinate and lead weekly garden walk-throughs with kitchen staff
- Maintain garden maps and harvest sheets
- Work independently during the summer to maintain the garden

Communication, Outreach and Grant-Writing
- Participate in ESY staff meetings and professional development
- Maintain healthy relationships with ESY staff, King teachers and administrative staff, students, parents, neighbors, school garden and kitchen educators and ESY affiliates

- Maintain an awareness of and actively participate in ESY events, school events and relevant community events
- Contribute regularly to the online ESY journal
- Represent ESY program to the wider community
- In tandem with the Garden Manager and Teacher, annually apply for a grant from the Berkeley Public Education Foundation (BPEF) and other grants, as appropriate

Management

- Oversee the garden volunteers

The Edible Schoolyard Chef Teacher
Job Description

Position Description
The Edible Schoolyard Chef Teachers support the Head Chef Teacher in all aspects of the Edible Schoolyard (ESY) kitchen. S/he teaches daily kitchen classes for 6th, 7th, and 8th grade students, participates in lesson planning and recipe development, and works with the kitchen team to maintain an interactive teaching kitchen. The Chef Teacher reports to the Head Chef Teacher and the Director.

Duties include but are not limited to:
Teaching
- Design and conduct daily kitchen classes for 6th, 7th, and 8th grade students
- Guide students through all aspects of kitchen lessons to ensure skills and values development, understanding of seasonality, and connections to curricular studies
- Mentor individual students in and out of class, model respect and curiosity for learning and encourage students' interests and talents
- Prepare dishes using fresh, seasonal produce grown by students in the ESY garden
- Organize, set up, and break down all kitchen lessons
- Design and conduct lessons for adults participating in the annual Edible Schoolyard Academy

Lesson Development and Documentation
- Collaborate with kitchen staff in the development of kitchen lessons that are integrated with classroom teaching, ESY standards, and academic standards
- Contribute to lessons and recipe development to maximize use of seasonal produce grown in the ESY garden
- Design and produce teaching and visual aids for ESY kitchen lessons
- Create video resources for our students, teachers, and the ESY Network

Kitchen
- Meet weekly with kitchen staff to identify and prioritize kitchen maintenance, class preparation and other relevant tasks
- Maintain designated cooking station table domain daily
- Maintain tools and equipment in the kitchen classroom
- Assist with the planning and preparation of food for special ESY events

Communication and Outreach
- Participate in ESY staff meetings and professional development
- Facilitate healthy relationships with ESY staff, King teachers and administrative staff, students, parents, neighbors, school garden and kitchen educators and ESY

affiliates
- Maintain an awareness of and actively participate in ESY events, school events and relevant community events
- Represent ESY program to the wider community

Leadership*
- Design and conduct after school classes in collaboration with Berkeley LEARNS
- Design and conduct a summer camp in collaboration with the Lawrence Hall of Science
- Work with the Family Class Coordinator to run weekly Family Night Out classes
- Work with the garden staff to design and conduct a rich, reward curriculum for IWE's
- Oversee bulk food purchasing and storage to ensure cost-effective purchasing for kitchen classes
- Annually apply for a grant from the Berkeley Public Schools Fund (BPSF) and other grants, as appropriate
- Ensure lesson documentation, recipe updates, visual resources, and kitchen inventory are current internally and online
- * Leadership responsibilities are divided and assigned each year to ESY Chef Teachers.

The Edible Schoolyard Family Class Coordinator Job Description

Position Description
The Edible Schoolyard Family Class Coordinator is responsible for designing and implementing a cooking education program that engages the families and students at Martin Luther King, Jr. Middle School in the lessons taught in classes at the Edible Schoolyard. The Family Class Coordinator works with the staff of the Edible Schoolyard to build stronger connections with the families of our students in order to increase the number of fresh meals families cook at home.

The Family Class Coordinator is a contracted position with the Edible Schoolyard Project and requires a commitment of 50% FTE. The Family Class Coordinator reports to the Director of the Edible Schoolyard.

Duties include but are not limited to:
Teaching
- Design and teach family cooking classes aligned with Edible Schoolyard values and skills that are relevant to the diverse population of King Middle School families
- Develop a robust and multi-faceted outreach strategy that is effective at bringing families to Edible Schoolyard cooking classes
- Teach daily kitchen classes for 6th, 7th, and 8th grade students
- Guide students through all aspects of kitchen lessons to ensure skills and values development, understanding of seasonality, and connections to curricular studies
- Mentor individual students in and out of class, model respect and curiosity for learning and encourage students' interests and talents
- Prepare dishes using fresh, seasonal produce grown by students in the ESY garden
- Organize, set up, and break down all kitchen lessons
- Design and conduct lessons for adults participating in the annual Edible Schoolyard Academy

Administrative
- Work with King teachers and administrative staff to build support for and connections to family cooking classes at the Edible Schoolyard
- Evaluate the relevance and effectiveness of family cooking classes and implement improvement strategies
- Work closely with Edible Schoolyard staff to coordinate lessons and incorporate the established rituals and routines of the ESY kitchen into family cooking classes
- Design, print, and provide recipes and information for participants to take home
- Solicit donations from local and non-local business and organizations
- Document lesson planning, outreach strategies and recipes for edibleschoolyard.org

The Edible Schoolyard Garden AmeriCorps Member Job Description

Position Description
The Garden AmeriCorps Member spends 1700 service hours refining garden maintenance and teaching skills, while engaging in the day-to-day responsibilities of maintaining the one-acre, organic Edible Schoolyard (ESY) garden. S/he assists in designing and teaching daily garden classes for 6th, 7th, and 8th grade students, participates in lesson and garden planning, and works with the ESY garden staff to develop and maintain a productive and educational garden. The Garden AmeriCorps Member reports to the Garden Manager and Teacher.

Duties include but are not limited to:
Teaching
- Co-teach daily garden classes for 6th, 7th, and 8th grade students
- Guide students in general maintenance of the garden with specific focus on compost, harvest, propagation, and cultivation
- Mentor individual students in and out of class, model respect and curiosity for learning, and encourage students' interests and talents
- Co-teach lessons for adults participating in the annual Edible Schoolyard Academy and for students participating in the Edible Schoolyard summer program
- Design and teach an after school class series once a year
- Assist in supervising the High School Internship program, including designing garden and kitchen tasks and activities.

Lesson Development and Documentation
- Collaborate with garden staff in the development of garden lessons that are integrated with classroom teaching, ESY standards, and academic standards

Garden
- In collaboration with the garden staff, maintain and develop one of the four rotating garden responsibility areas: compost, propagation, animal care, and lesson development
- Participate in propagation and greenhouse work, soil fertility, composting, crop rotation, garden planning, pruning, irrigation, pest and disease management and animal husbandry
- Meet weekly with garden staff to identify and prioritize garden work, class preparation and other relevant tasks
- Lead the Wednesday Weeders group in the garden
- Open and close tool shed for daily garden classes and maintain order and cleanliness of shed and all hand tools
- Work independently during the summer to maintain the garden

Communication and Outreach

- Maintain healthy relationships with ESY staff, King teachers and administrative staff, students, parents, neighbors, school garden and kitchen educators and ESY affiliates
- Maintain an awareness of and actively participate in ESY events, school events and relevant community events
- Participate in ESY staff meetings and professional development

Hatching a Plan

SERIES OVERVIEW

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For two decades, the Edible Schoolyard Project has been building, testing, and propagating a model for teaching that invites students into a relationship with fresh, flavorful, healthful foods, and connects their academic studies with the natural world in garden and kitchen classrooms. During that time, we have seen "edible education" programs take root across the country, and have had the pleasure of interacting with thousands of them through our programming and online network.

The [Sustaining Edible Education Field Reports] are a direct response to questions we have begun to hear as edible education transforms from an inspiring idea into a national field of practice. As the body of evidence establishing a positive relationship between edible education and student wellbeing and achievement grows, more schools are looking to institutionalize and sustain this work by building COMMUNITY, expanding CAPACITY, and measuring and increasing IMPACT. This series explores each of those three thematic areas by documenting the stories and strategies of real practitioners.

There is no one-size-fits-all methodology for edible education: each school and community operates within its own cultural, climatic, economic, and administrative context. In researching and writing these reports, the goal of their authors has been to identify helpful, field-tested practices that transcend context. Our hope is that these reports will provide practitioners in any stage of program development with relevant ideas, a resource to hand to decision-makers about what it takes to help edible education thrive, and reassurance that there is no "right way" — each program forges a unique path, and rarely a straight one.

About the author

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Maggie Gosselin is a food systems consultant based in San Francisco. In the past, she has led training and technical assistance efforts for the US Department of Agriculture's National Farm to School Program; worked on USDA's Supplemental Nutrition Program for Women, Infants, and Children; managed educational programs for the Center for Urban Education about Sustainable Agriculture; collaborated with friends to create The Local Foods Wheel; and been immersed in farm life at the Center for Urban Agriculture at Fairview Gardens. Maggie holds an M.S. in Agriculture, Food, and the Environment from Tufts University and a B.A. in Environmental Studies from the University of California at Santa Barbara.

INTRODUCTION

When I began conducting interviews to learn how edible education programs across the country were approaching strategic planning, it quickly became clear that most practitioners didn't think they were doing much planning at all. The term seemed to conjure images of endless conversations resulting in thick documents — something most programs felt they "should" do, but couldn't find the time for. As I asked people to talk about how they developed programmatic and fundraising ideas and decided which ones to pursue, though, I heard stories of lively meetings, inspired visions, and interesting partnerships. Many programs described engaging a broad community of people in thinking strategically about their programs, they just didn't call it planning.

My own experiences and conversations with veterans of edible education have convinced me that at least some strategic planning is essential if a program is to become an integral and sustained part of a school, district, or community. Planning helps develop a common language that supporters can use to talk about a program with consistency and confidence to funders, policy-makers, community partners, teachers, and parents. Planning builds engagement and establishes effective systems. Planning helps everyone involved know where they fit in and why their work matters. But any process that happens in a school setting must be efficient (who has extra time?) and result in something useful (no tomes gathering dust!). For most people I spoke with, traditional strategic planning and the big comprehensive plan it would produce didn't meet either of these criteria. Instead, practitioners described a more modular and agile approach to planning that might benefit

from a bit more structure and documentation, but was practical and even fun. Rather than the perfect planning recipe that I sought, the practices that I observed and that surfaced through conversation were more like a list of good ingredients with which a program could create its own recipe, based on time, priorities, and tastes. This field study describes those ingredients and then demonstrates each through real examples; they are:

be inclusive,
get clear on intent,
explore assets,
be principled,
embrace development,
and document a plan.

All of these practices require an up-front or ongoing investment of time and thought, but can save countless hours along the way and put an edible education program on a better path altogether. They may provide a place to start, a good next step, or serve to put important work that's already been done into a planning context.

BE INCLUSIVE

Edible education can transform schools at every level and reach deep into communities, which means that program stakeholders tend to be diverse and, eventually, abundant. In planning, varied opinions and perspectives can be a challenge, but also a tremendous asset. Good ideas are at the heart of planning, and I heard from many practitioners that good ideas can come from anywhere. Being inclusive — inviting, listening to, and valuing diverse input and participation — leads to the type of idea-generation and strategizing that moves edible education forward.

Ways to do it

In the beginning, being inclusive actually looks more like being included. Especially before a program is off the ground and has broad support, it goes a long way for those who are spearheading edible education to show up with inspiring examples and clear requests at places where school stakeholders already gather. Asking for a place on the agenda at teacher, administrator, and parent meetings, student clubs, or wellness committee meetings to keep people informed and solicit input sets the stage for a program that belongs to the community rather than any particular person.

Instead of a list of successes or needs, it's most engaging for groups to hear stories, see photos, and receive honest accounts of challenges and invitations for input that help them see there's a role for them to play in making edible education work.

As interest in a program grows, one way to harness it is by forming an edible education committee or advisory board to process ideas and identify opportunities. Formalizing a group and roles within it can increase commitment among members and also provide more concrete benefits for them, like a chance to lead, bolster a college application, or just be an official part of something exciting. While some programs cast a wide net, inviting any willing school or community member to join the team, others keep groups small and simple, relying on members to gather input through individual relationships or participation in other committees. If the team steering edible education is limited, programs can think about mechanisms for bringing new people and perspectives into the fold like sub-committees or regular community meetings.

Says Sam Ullery, School Garden Coordinator for Washington D.C.'s Office of the State Superintendent of Education who has helped dozens of schools establish and grow edible education programs, "Almost always, schools don't do enough thinking and planning and that bites them later on." Remembering when he was a classroom teacher and dove into starting a garden, he says he wishes he had waited just six months. That time, he says, could have been used to great effect to figure out what students and teachers wanted, and involve them in every step of the process to lay the groundwork for a more resilient program. *(see to-be-written Community Buy-In Field Report)*

More than a specific set of steps, being inclusive is a way of operating. It's a belief that edible education will only work if it embraces the community and diversity within it. It's about noticing who is and isn't at the table across many dimensions, and making intentional efforts to explore and fill the gaps. If certain groups don't seem interested or aren't engaging, why not? Some answers come easily; others through the long, slow processes of reflection, discussion, and relationship-building.

GRAPHIC: Who's at the table?

(Note: Designer will find a compelling way to display this information in a full-page graphic.)

Students, teachers, school food service staff, school administrators, school board members, parents and grandparents, food producers, school nurses and psychologists, guidance counselors, non-profit organizations, Master Gardeners, researchers, custodial and grounds staff, local chefs, state agency staff, health care professionals, extension agents, PTA/PTO representatives, members of the local media, the school or district communications director, the school or district curriculum director, other schools or districts that have farm to school programs. A diversity of roles, ages, cultures, races.

Example: Students lead the way in West New York, New Jersey

In West New York, New Jersey, the district's School Food Service Director and farm to school program manager Sal Valenza has intentionally cultivated an environment in which new ideas are welcomed since the program's start. Proposals for initiatives and programming come from everywhere — teachers, students, food service staff, "it's all over the place," says Valenza, "and that's because we've built a culture where that's what we do — there are no bad ideas." The foundation of this inclusive culture is deep involvement by students at all levels: they steer the district's wellness efforts, sit on committees, actively participate in fundraising, test new cafeteria offerings, and even develop strategies for promoting the farm to school program in marketing classes. Students love thinking about what's next, says Valenza, because they know their proposals will be at least taken seriously, if not implemented. "At schools, we tend to do things for kids," he says, "we need to do things with them." This perspective has led to seemingly infectious enthusiasm among students that's taken hold throughout the district.

Example: A trio connects the dots to move place-based education forward in Tok, Alaska

In rural eastern Alaska, the Gateway School District's Curriculum Director Tracie Weisz attends a bimonthly meeting with the Gateway's Greenhouse Manager and Nutrition Services Manager to share ideas about and steer edible education efforts within the district. Wanting to see more collaboration between the classroom, cafeteria, and agriculture program, the small team began coming together regularly in 2015. The outcome, Weisz says, is that teachers and students feel more connected to the food service team and are regularly generating new proposals to collaborate with cafeteria staff on the district's initiative to provide more "place-based" learning opportunities. Some of the ideas that have come out of this deeper partnership — including teaching lessons on traditional Alaskan ways of preserving foods, constructing a smokehouse for local meats and fish,

and planting a garden of native edibles — are generating excitement among students, parents, teachers, and food service staff alike. For Weisz and her colleagues, working in a small group is most efficient — each keeps an open door for the groups with whom they work most closely to share ideas, perspectives, and concerns.

GET CLEAR ON INTENT

There are so many reasons to pursue edible education, from improving kids' health and eating habits to developing their leadership skills and self-confidence. Every program is driven by a unique combination of motives, which significantly influence programmatic choices, goals, and evaluation metrics. A shared understanding of a program's purpose, and a clear articulation of it, like a mission or vision statement, can be an essential tool for planning. At the least, statements of intent provide a clear and consistent way to talk about a program; at the most, they can inspire, give a sense of destiny, and act as an important guide.

Ways to do it

The process of developing a common sense of purpose can be fun, energizing, and community building. It is a time to think and dream big, and a perfect opportunity to involve students. A mission statement explains why an organization or program exists, while a vision statement describes the world as it would exist if the entity were to fulfill its dreams. Some edible education programs articulate both, some one but not the other. If a program is not yet clear on how exactly it'll be operating, a vision statement is an easier place to start as it answers the broader question "What do we want to see?" rather than describing exactly what a program does, for whom, or how.

Developing a mission or vision usually involves gathering input from a broad group of stakeholders, using that input to craft a statement, and going back to the group to iterate on the draft until it feels right. Most people coming to the table will have their own individual take on the program's purpose, so the primary (and the most fun and difficult) exercise is to understand and identify themes among all of the individual perspectives and establish a shared sense of purpose. The process might surface significant differences in perspective, and that's a good thing — it's much better for different perspectives to be shared and reconciled early on than to allow disagreement and confusion to continue as a program grows.

Input can be collected via individual conversations, at a community meeting, or even through a survey or suggestion box. It's not always possible, but bringing a group of people into the same room to share their hopes and hear others' leads to more idea-generation and helps to get everyone on the same page. Working with a large group can also be unruly, so it's helpful to set out clear goals and an agenda, present statements developed by other programs, ask guiding questions, or decide on some constraints. For example, when crafting a vision statement, a group might choose a scope: is the program expressing the future it wants to see realized in the school, the community, the city? — The answer will influence the conversation and the eventual output. Working with an unbiased facilitator is one way to ensure that the conversation stays on track and isn't dominated by a particularly opinionated individual. It's rarely effective to work on specific wording in a large group setting, so leave the actual crafting of the statement to one or two people who are good, clear writers.

Some edible education programs operate within a school, district, or organization that already has a strong and specific vision or mission. Instead of or in addition to establishing their own statements of intent, these programs often choose to focus on how their work furthers the larger organization's purpose. In that case, a similar process may be undertaken, but with a focus on articulating how the program supports the existing mission or vision.

Once a statement of purpose has been established, its relevance to planning will become immediately apparent. Mission or vision statements act as check to ensure programmatic focus. Answering questions like "Does this activity move us closer to our vision for X?" or "Does this idea directly support our mission to Y?" is an easy way to determine whether keep or discard current or proposed activities and might be unexpectedly helpful even for everyday decisions, like whether or not to attend a meeting. Statements of intent also carry implications about how to measure success. For example, if a school's mission and vision for edible education are focused on healthy students, it will likely want to measure things like student biometrics or eating habits over attitudes about the environment or improvement in test scores. Externally, statements of intent can inspire stakeholders and show potential employees, donors, or volunteers that the program is on an intentional path toward a specific, compelling end — one that's worthy of their time, support, money, or attention.

Mission and Vision Inspiration

Here are some examples of clear, concise, and memorable mission and vision statements from the world of edible education.

MISSION STATEMENTS

- The mission of the Salmon School Garden Project is to develop a school-based garden and corresponding Farm-to-School program, fully integrated into the Salmon School District's long term learning environment.
- Rogue Valley Farm to School educates children about our food system through hands-on farm and garden programs, and by increasing local foods in school meals. We inspire an appreciation of local agriculture that improves the economy and environment of our community and the health of its members.
- The mission of the San Diego County Farm to School Taskforce is to increase consumption of local, healthful, seasonal foods and to improve food literacy within schools.
- The mission of the Sitka Fish to Schools program is to deepen youth understanding of local seafood resources by integrating locally caught seafood into the school lunch program, introducing "stream to plate" curricula, and fostering a connection to the local fishing culture.
- The Ohio Botanical Garden Green Corps' mission is to build life, work and leadership skills by employing and educating high school youth (ages 14 to 18) through the practice of sustainable agriculture, place-based learning and community engagement.

VISION STATEMENTS

- Edible Schoolyard New Orleans envisions generations of New Orleans children who have healthy relationships with food, the natural world, themselves, and their community.
- The Edible Schoolyard NYC's vision is that all children are educated and empowered to make healthy food choices for themselves, their communities, and their environment, actively achieving a just and sustainable food system for all.

- Grow Pittsburgh envisions the day when everyone in our city and region grows and eats fresh, local and healthy food.
- Imagine a world where we all know the source of our food and value the farmers and ranchers that grow it for us. Where we are all familiar with innovative water and soil conservation methods that grow our crops and protect our natural resources. Drip systems, mulching, composting, drought tolerant plant and tree varietals, watershed knowledge and best agricultural practices become like knowing your last name – obvious and easily conveyed. And where every child, family, and community member has access to fresh, affordable, local food. Welcome to Montezuma School to Farm Project's vision for the future of our region.
- Growing Oshkosh envisions a diverse network of productive and educational demonstration sites throughout Winnebagoland featuring the latest in local, urban food production methods and technologies, including: composting and vermicomposting; aquaponics (growing with fish); extended-season gardening; year-round, indoor farming in hoophouses (including vertical growing) all—ideally—while utilizing renewable energy and other sustainable technologies.

Example: Students envision edible education in Cleveland, Ohio

At Urban Community School, a private, ecumenical institution serving low-income children in Cleveland, Ohio's Near West Side, the development of an edible education program began with a visioning process undertaken entirely by students. Middle schoolers dreamed up, drew, described and created budgets for their ideal learning gardens, including the ways they wanted to feel and interact within them. The students then brought their ideas to a community meeting at which diverse stakeholders — from administrators to teachers to parents to community partners — worked together to refine the students' visions and identify common themes. During two subsequent meetings, the group of forty collaboratively established the foundation of the now-thriving garden classroom around which the school's edible education program has been built. This process led to a common understanding that Brandon Traud, the school's Healthy Lifestyles Teacher, and Natalie Celeste, Middle School Vice Principal, cite as an amazing asset during the program's evolution that has helped them move forward with clarity and purpose.

GRAPHIC: Depicting A Vision

(Note: We haven't found all the art for this yet, but it'll be a full page of photos showing murals, garden and cafeteria art, etc. that portray a vision for edible education.)

Example: Edible education finds its place in a San Diego, California, school for homeless youth

Monarch School is a San Diego public K-12 that serves homeless youth using an innovative approach focused on helping students get the skills they need to "improve their lives, develop awareness of their emotions, explore their passions and plan for a life of self-sufficient living." Andrew Schlegel, the school's Director of Programs and Partnerships who helped establish its edible education program, says that visiting Edible Schoolyard Berkeley as Monarch's was getting off the ground helped him and his colleagues see how their personal hopes for what students would do and learn in the garden and kitchen could fit into the school's vision and approach. Being able to articulate how edible education contributed to the school's dreams, Schlegel says, "just made things flow so much more easily." He has been able to convey the value of edible education programming in the school's unique context, and embed the work into existing, agreed-upon frameworks.

EXPLORE ASSETS

I was first introduced to the idea of asset mapping by Farm to School Coordinator Rachel Sacco, who is employed by a local hospital to head edible education efforts in Concrete, Washington's schools.

For Sacco, a pivotal moment came when she read about the practice and saw its application to her work. “Needs assessment,” a popular start to program planning in the world of public health, felt like a gloomy frame, focused on what her community lacked, rather than on tapping its many strengths. Says Sacco, “The idea of focusing on assets was impactful for me because we tended to become negative and talk about the challenges and people and policies that were in our way.” When she began looking at the community as a cornucopia of resources rather than a landscape of hurdles and deficiencies, conversations became more positive, and far more fruitful.

For those just starting a program, or recently hired, asset mapping (just a way to describe the process of discovering new relevant resources in a community) can be the fastest way to gather information and develop novel ideas for partnerships, programs, and fundraising tactics. Taking a step back to think about what opportunities have yet to be explored can also breathe new life into planning conversations for more established programs.

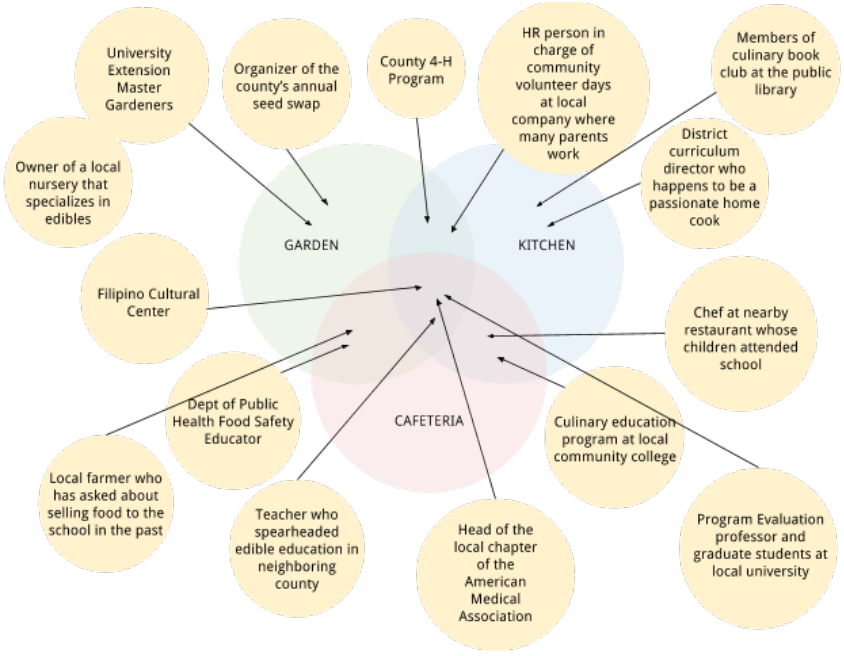
Ways to do it

The concept of asset mapping is simple: a program identifies what sorts of community resources it’s interested in (people, organizations, businesses, food producers, physical spaces, funding sources, or all of these), engages in a discovery process, documents ideas or results, and then analyzes the findings for themes and opportunities. Resource exploration can be an ongoing process or a discrete activity, a formal exercise or an hour-long brainstorming session. More formal processes might involve focus groups, a community survey, or a series of interviews, *(see Participatory Asset Mapping)* but a well-facilitated creative thinking session with a diverse steering committee can also be productive. The output of an asset mapping exercise can be a geographical or conceptual map, a whiteboard full of sticky notes, or a formal report. The only hard and fast rule is to approach the exercise with curiosity, openness, and a genuine belief in opportunity.

GRAPHIC: ASSET MAP

(Note: Designer will redesign this graphic)

Below is a hypothetical conceptual asset map that shows the outcomes of an edible education committee's brainstorming session about untapped assets (in this case people or organizations) that might help improve their program in years to come.



Example: Asset mapping leads to a musical partnership in Oxford, Mississippi

At one of their regularly scheduled meetings, the committee steering Good Food for Oxford Schools' (and edible education program based in public schools in Oxford, Mississippi) undertook a conceptual asset mapping exercise with a specific aim in mind: to better engage African American families, whose children make up a significant portion of the student base in Oxford schools. In thinking about increasing participation and interest among black families, a member of the group came up with the idea of approaching the churches where much of the black community spends their Sundays. A partnership was born, and the eventual result of it was the "Gospel Choir

Showcase," a fundraising and community-building event that brings Oxford residents out on the town square to hear gospel choirs sing, and to learn about Good Food for Oxford Schools. Since many of the district's school food service staff sing in the choirs or attend the associated churches, the event has also led to more food service engagement in edible education within the district.

Example: High schoolers explore community food assets in Pittsburgh, Pennsylvania

When "Urban Farmers in Training" join Grow Pittsburgh (a nonprofit that teaches people how to grow food and promotes the benefits of gardens) for summer internships, one of their first tasks is to think about the community assets that will support their work. The high schoolers literally walk the neighborhood where the community garden is based (and, usually, where they live), identifying restaurants, stores, organizations, and other resources that might help in their 3-month quest to learn about gardening and cooking, understand the food system more deeply, and build their leadership skills. Says Jake Seltman, Director of Educational Programming, the interns also identify gems like "my grandma" (an avid backyard gardener or fantastic cook) along with other resources that the larger organization would have no way of discovering. The assets, sometimes physically mapped online, are built upon from summer to summer, and help students both to learn and to think differently about their neighborhood and community.

BE PRINCIPLED

Individual and shared beliefs, whether explicit or implicit, influence how any program or organization pursues its mission. While mission and vision statements help to explain what a program does and what it wants to see, they don't always fully elucidate the underlying principles or perspectives that drive the work. Formalized principles or frameworks are another tool that can help edible education programs make strategic decisions and convey a compelling perspective to supporters.

Ways to Do It

Programmatic principles or frameworks can be present from the very beginning or take shape over time. Some programs adapt them from another organization or program; others start from scratch to create their own. Like establishing a common sense of purpose, developing principles or a conceptual framework as a group can help to solidify a shared perspective, or and even establish

norms for how members of a team work together *(see The Edible Schoolyard Workplace Culture);* they should be reviewed, if not developed, by key staff and stakeholders.

Something as simple as a single sentence explaining how a program sees its work leading to positive outcomes can help clarify and succinctly explain an approach, giving more detail than a mission statement might. For example, the website for the Arcadia Farm to School program in Washington shares their belief that "when students learn where their food comes from through experiential food and farm education, they are more likely to consume fresh, healthy foods, and establish healthy and sustainable eating habits that spread to families and communities." While this might seem obvious to someone steeped in edible education, it could be a revelation for a parent or administrator, or just a good starting point for a conversation. Whether one sentence, a long list, or a visual representation, principles (and beliefs, values, and frameworks) all help to ground a mission or a vision, and to guide decision-making.

Example: Principles drive decision-making for a Birmingham, Alabama organization

Jones Valley Teaching Farm is an organization that partners with public schools Birmingham, Alabama, to provide students with hands-on food and nutrition education. Amanda Storey, Jones Valley Teaching Farm's executive director, explained to me how the organization deepens its adherence to their "method" (similar to a set of principles, below) every year through programmatic, pedagogical, and administrative decisions.

1. *Education should be holistic and student centered. Every student's voice matters.*
2. *Public schools are community hubs capable of great things.*
3. *Investing directly in teachers maximizes impact on students.*
4. *Hands-on, experiential, and project-based education improves content retention and student attitudes towards learning.*
5. *Design thinking can be used in education to prototype, test, and refine ideas quickly to discover the best solutions for students.*

Storey explained how each of the principles is ingrained in the organization's actions, and helps guide decision making at many levels. For example, their principle that investing directly in

teachers maximizes student impact recently led Jones Valley to restructure staffing to include seven full-time salaried instructors, one for each partner school, rather than relying solely on the Americorps VISTA program as they had in the past. Of the last principle articulated in their method, Storey says "I feel like this is exactly what Good School Food does on a daily basis. We design our program based on relationships at the school level and we test and refine elements of the work consistently… this is always at the heart of how we implement our programming and we keep that mindset as we talk to funders, teachers, parents, and students."

Example: in Berkeley, California, a framework for edible education places the child at the center

After nearly two decades working at Edible Schoolyard Berkeley, Kyle Cornforth, the program's director, has seen distinct trends in the interests that draw people to edible education. Over the years, she's watched concern swell about children's relationship to the environment, their physical health, their attainment of real-world skills, their academic engagement, and their emotional and social development. All of these, she says, are valid and important entry points with a common thread: the wellbeing of youth. Wanting to find a way to share the program's perspective that edible education can feed students in all of these ways, and that these programs occur within a larger context for each child, the Berkeley program developed a conceptual framework to depict and guide its thinking about a student's holistic experience. Cornforth drafted the framework on her own, based on many years of observations, and worked with colleagues to hone the language and the image. They have since used the framework to guide the development of new lessons and reframe existing ones, and it has influenced how the team talks about the program and edible education generally. The framework has also resonated with edible educators across the country, who have adapted it to reflect their programs' unique perspectives and contexts. *(see video: Edible Education Framework)*.

EMBRACE DEVELOPMENT

As an edible education program's purpose becomes clear and ideas for pursuing it proliferate, the growing imperative to support them can become overwhelming. For most program managers, fundraising creates more anxiety and less joy than any other task. But practitioners are finding success when they acknowledge that raising money is an integral part of their work and approach it thoughtfully, with persistence and clear intention.

In a brief three years, Sunny Young, former Director of Good Food for Oxford Schools, managed to found and build an edible education program, and then reach the program's goal of raising 100% of funds from community sources. Her advice on achieving such success? "You have to accept that fundraising is a significant part of your job." And, she adds, you have to like it. For Young and other practitioners with whom I spoke, more financial sustainability came when development was embraced as an essential part of the work, and clear fundraising goals were established and repeated again and again.

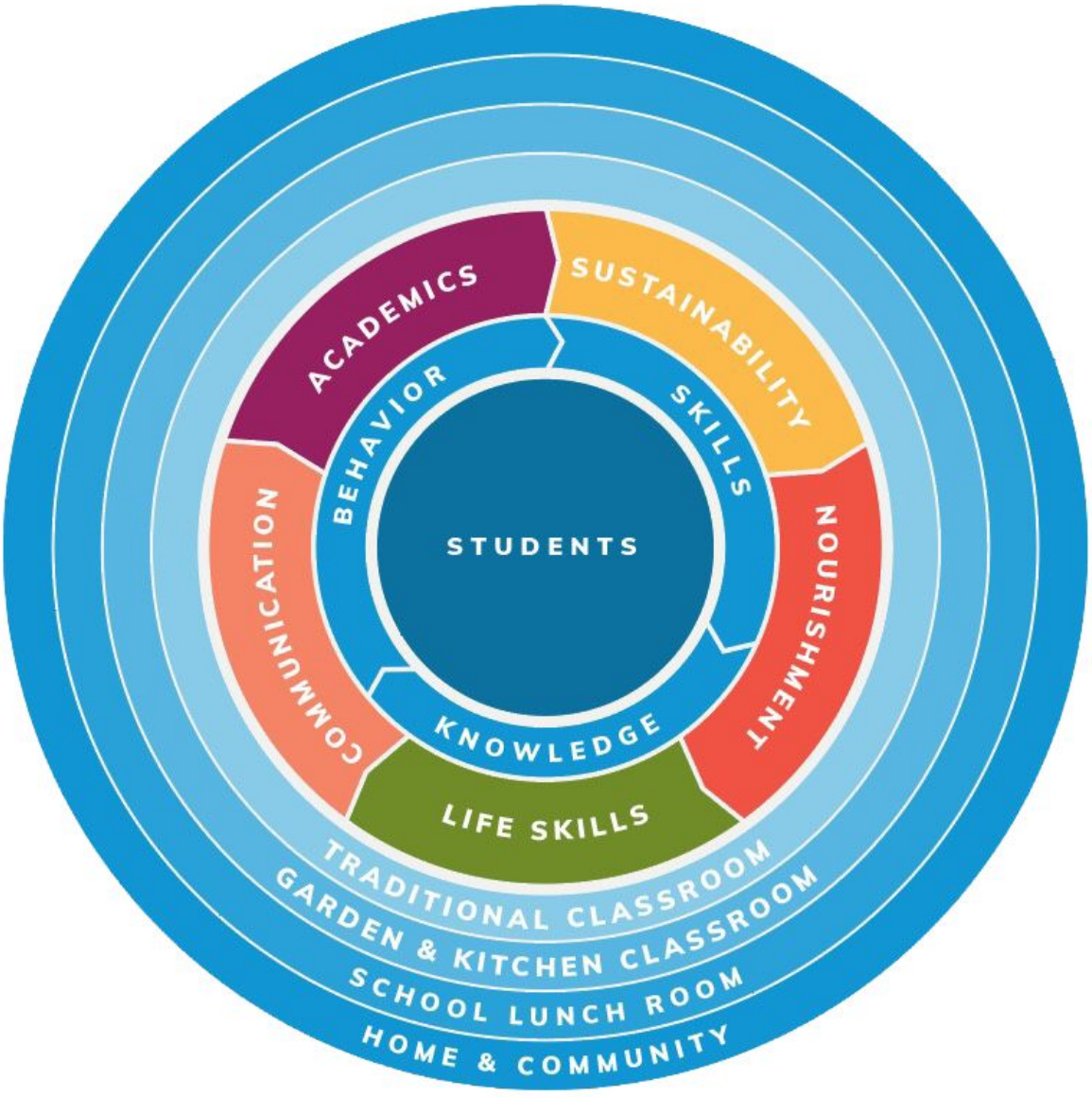
Ways to Do It

In the development literature, the term "culture of philanthropy" is used to describe a specific set of beliefs that many organizations experiencing fundraising success share: that development is integral to achieving their mission, that responsibility for fundraising should be shared among staff, and that a focus on strong relationships is essential for engagement and donor retention. *(see Beyond Fundraising)* While none of the programs I interviewed specifically mentioned the term "culture of philanthropy," many referred to aspects of it, and especially to the value of authentic relationships and their way of leading to financial support.

Kellie Karavias, a public school teacher and founder of The Cultivated Classroom, an edible education program that operates in two schools in Houston, Texas, explained the unquantifiable, but definite, value in inviting the entire school community to build its gardens. The program's "Dig-It Days," *(see video: Dig-It Day)* sometimes attended by as many as 200 parents and students, aren't necessarily the most tidy or efficient way to build and maintain gardens, but they are essential to the program's resilience, financial and otherwise. If you want them to support and respect a garden, she says "you need to let people work, break the ground, do it all themselves... nothing beats excitement." Karavias relies on these types of community events, and on "corny puns," fearlessness, and her belief in the power of edible education to make authentic connections that have a way of leading to

Edible Education Framework Graphic

An edible education places the child at the center of their learning and uses food to engage all aspects of the child's education. Through growing, processing, cooking, eating, studying, talking, and thinking about food, students develop skills, knowledge, and behaviors that enrich their academic and nonacademic lives, bolster their growth as individuals and in relationships, and cultivate meaningful engagement with their own health, the health of their communities, and the health of the planet.



support. She told me about a recent benefit dinner for the program spearheaded entirely by the enthusiastic owner of a local restaurant, about a landscape architecture firm that approached her asking if they could volunteer to design a beautiful new garden at no cost, and about a school principal who was willing to spearhead fundraising efforts just so her school could benefit from the program.

In the same way that any person or relationship might somehow lead to funding, every funder is also a person. Remembering that *people give to people* and bringing the same humanity to donor relationships as to others is also key to keeping donors engaged and giving. According to Network for Good, *(see The Art and Science of Donor Relationships)* on average, only three out of 10 first-time non-profit donors choose to give again the following year. Since it's seven times more expensive to replace a donor than to retain one, keeping donors interested and informed about the important work their contributions enable is crucial. Reframing giving as just another way that people can champion a program (like sharing their time or expertise) ensures that donors are treated as, and see themselves as, program advocates.

Embracing development also means thinking about it strategically and setting concrete long-term goals for future funding, including an ideal balance of funding sources *(see Sample Planning Matrix for Program Fundraising)***.** For most programs, those goals include less uncertainty, more diversity, and increased funding overall. Essential to assessing funding opportunities and building a long-term plan is a realistic idea of the risks and rewards of each potential stream, and the work and cost it will take to nurture and grow them over time.

Four Questions for Evaluating Fundraising Options

When time is tight, should a program spend eight hours applying for a $10,000 grant they have a 40% chance of getting, or rally volunteers, students, and parents to dedicate 20 collective hours to a fall pumpkin sale that will make $500? The answer depends on goals and priorities. Here are four questions programs should ask themselves about any fundraising option:

1. **What is the potential monetary benefit of pursuing this funding and how likely are we to realize this benefit?** Time spent researching the competitiveness of a grant,

talking with other programs who have pursued a fundraising idea, or digging into past records to determine how financially successful an event was will be well spent.

2. How flexible are these funds and do their potential uses match the program's needs? Ideally, money from recurring, reliable sources (which tend to take more time and effort to cultivate) would fund ongoing program operations, while one-time grants, events, or campaigns would support discrete projects like the construction of a kitchen, the establishment of an orchard, or the start-up costs for a new programmatic activity.
3. How much work (including staff and volunteer time) and money will it take to earn these funds and report on their use? Establishing donor databases, grant tracking systems, and program evaluation protocol all take time, as do submitting and reporting on foundation grants or planning and coordinating volunteers to pull off a big event.
4. How much non-monetary value will this activity have for the program? Even if a program doesn't make much money or win the grant, it might still gain valuable things like new relationships, increased engagement, new program advocates, a more accurate operating budget for a project, experience applying for a federal grant, or positive press.

Example: Persistence pays off for edible education in a San Francisco high school

While outside organizations and grants both large and small helped to establish the Food and Agriculture Program at Mission High School in San Francisco, the program's director Raquel Vigil and her small steering committee knew that its longevity hinged on finding a way to institutionalize funding. The team made finding sustainable funding a top priority and repeated the goal "over and over and over," says Vigil, every time they talked about the program and its future. Eventually, they were approached by the school's principal with an opportunity they jumped on: to develop the edible education program as part of Career Technical Education (CTE), a federally supported initiative that helps students develop practical skills for employment and post-secondary education. The opportunity has resulted not only in more reliable funding, but in deeper integration within the school on many levels. Between the federal CTE funds and the school's matching funds, almost all of the program's costs are covered — the few that aren't are funded by a student-led fundraising dinner or small grants for specific projects or supplies.

Example: A flat of berries leads to a sizable grant in Concrete, Washington

Rachel Sacco, Concrete School District's Farm to School Coordinator, can attest to the power of relationships in building capacity. The program's largest funding stream was initiated when Sacco approached Cascadian Farms (which originated in Washington's Skagit Valley where Concrete is located, but has become a national brand) to introduce herself, learn more about the farm, and ask for a humble donation of 30 pounds of blueberries. A friendship was formed, and the people at the farm, excited about what they heard from Sacco about the district's embrace of local food and garden-based education, independently sought funding from their parent company, General Mills, to support the district's efforts. General Mills agreed to provide a large, flexible grant that Rachel is hopeful will be a recurrent source of support for the program. "We never even had to ask for money" says Sacco.

DOCUMENT A PLAN

I should reiterate here that few programs I interviewed had a comprehensive plan. While every program was collecting ideas, periodically deciding which ones were worthy of pursuit, and determining how to fund them, these decisions and processes weren't often being documented.

The success of programs without written plans shows that they aren't strictly necessary, but creating even the most basic of plans makes a program more resilient by ensuring that everyone is on the same page and that staff turnover doesn't lead to program derailment.

Often, the impetus to put a plan on paper is an upcoming grant deadline. Funders want to know how, exactly, their money will be spent and make sure its impact is measured. While grantmakers might be the only ones who can *require* this information, the truth is that everyone who's investing their time or money in a program will be interested in it. Creating some sort of programmatic roadmap and a sharable document, even if simple, gives *all* supporters confidence.

Ways to do it

The process of documenting a plan and the amount of time and effort required to do it depends on what type of output a program has in mind, how long it has existed, and how many of the practices outlined above it has already engaged in. Has the program been collecting input from diverse stakeholders? Does it engage in ongoing discussions about strategy? Does it have mission or vision? Has it been through a planning process before? If so, documenting a plan could look as

simple as a program manager putting in one place work that has already been done and sending it to an advisory team or district leadership for review and approval. For programs just getting started, or those that have never planned, a more thorough, involved process might be appropriate — one that wraps in elements like asset exploration, visioning, and deeper community involvement.

A final plan might look like anything from a one-pager to a set of simple project-based plans *(see New Project Process)*, to a professionally designed document complete with goals, objectives and strategies that's trumpeted via social media and distributed to supporters. A good rule of thumb for humbler plans is that a program should not be embarrassed if someone asks to see it; even simple plans should be well-written and nicely formatted.

Some programs I spoke with emphasized the value of creating a detailed calendar to document programmatic events — everything from outreach events to fundraisers, conferences, grant deadlines, committee meetings, and teacher development days. Calendaring exercises (which are done best in a room with lots of wall space and unlimited sticky notes) help program planners literally look at their year and determine when there might be room to take on more, focus on fundraising, or hold additional meetings. They are also a great place to start when deeper or multi-year planning feels overwhelming or is impossible. Once a calendar of events is made, it can easily be formatted into a document that looks a lot like a plan and allows a program to say, at the least, "Here are the things we plan to do this year."

As with statements of intent, sometimes it's more important for an edible education program to align with a broader plan than to create its own. Ensuring that edible education shows up in school and district strategic plans can be extremely impactful. Says Drew Thomas, School Garden Coordinator for Chicago Public Schools, "The schools that have the most robust and institutionalized programs are the ones where school administrators have built farm to school into their Continuous Improvement Work Plans." The two-year plans, required of all 600+ Chicago Public schools, establish each school's mission, its strategic priorities, and the steps the school will take to accomplish its goals. When edible education is incorporated into a plan, says Thomas, administrators are held accountable, and when administrators are held accountable, things happen.

Local wellness policies, required by the federal government for any district operating the National School Lunch Program or other federal Child Nutrition programs, are also a key place for

integration of edible education goals and principles. The plans, which must be evaluated and updated every three years with community participation, set specific goals for nutrition promotion and education, physical activity, and other school-based activities that promote student wellness, and especially strategies (like garden education) that are proven to work. *(see Rethinking School Lunch, Wellness Policy Chapter)*

A Tip for Establishing Goals: Reality over Specificity

For some edible education programs, a set of specific goals is a nice bridge between a broader mission or vision and actual activities. If a program is already operating, some of those goals will be implicit in programming choices that have already been made. For first-time planners, it is important to make assumed goals explicit, and to evaluate how well current activities are working to support them. When establishing new goals, most guidelines emphasize making them specific and measurable. Measurability and specificity are good things to strive for, but programs should not underestimate the time and effort required to collect even the simplest data. If a food service department does not realistically have the information or staff time to determine the origins of all its purchases, there is no point in setting a goal to increase local purchasing by 20% — in that case, "purchase more local food" might be good enough. As time goes on and evaluation capacity increases, goals can become more specific. *(see to-be-written Evaluation Field Report)*

Example: Communities plan for the "three c's" in Vermont

In Vermont, many schools and districts have used the "community action planning" model developed by Vermont FEED (Food Education Every Day), a statewide organization that supports farm to school efforts, to plan an edible education program from scratch or further develop an existing program. Their community action planning guide (see Farm to School: A Guide for Community Action Planning) helps programs fast-track planning (if it is done efficiently the entire planning process can be undertaken in two, two-hour sessions), encouraging districts to gather a diverse group, craft a vision statement, brainstorm activities, categorize proposals based on the "three C's" (cafeteria, classroom, and community) and then determine specific goals and what it will take to achieve them. After the meeting, an action plan (based on a template provided by the organization) is developed and evaluation benchmarks are determined that directly reference decisions made during the meeting. The organization has also developed framework (see Farm to

School Action Cycle from VT FEED's "Farm to School Planning Toolkit") to depict the continual cycle of planning, action, and assessment.

Example: Planners make quick progress in Salmon, Idaho

Two years into running a farm to school program, Idaho's Salmon School District knew it was time to do some concerted planning. The twelve-member committee planned a four-hour off-campus "retreat" to reflect on programming, sift through ideas, and determine priorities for the future. In just half a day, the group emerged with a clarified mission statement, a programmatic sequencing model, a matrix of activities, a new committee structure with defined roles for each of its members, and a calendar detailing all of the major programmatic and fundraising events they had decided to commit to for the year. The process also led to some time-saving elimination of tasks. For example, the group determined that "action teams" they had developed to move specific initiatives forward were no longer functioning efficiently — cutting them meant fewer meetings and more time working as a group toward bigger goals.

Essential to achieving so much in such a short period of time was the Salmon group's decision to hire a facilitator to keep them on track and offer an objective, outsider's perspective. Ben Eichorn, founder of Grow Your Lunch, has a lot of experience being that "outsider," though he's long been involved in edible education. In his consultations with more than 100 schools over the past several years, he has observed that having someone present for planning who's knowledgeable but not involved in any interpersonal dynamics can go a long way towards clarifying a group's priorities. An essential part of his role, he says, is to "hem people in without stifling creativity." Whether or not a program engages a professional facilitator for planning, it's important that someone take on that role, ensuring that the process, whatever it is, doesn't get sidetracked or stall.

Example: A federal grant formalizes edible education planning in Julian, California

At Julian Union School District in the rural backcountry of San Diego County, edible education has grown with unusual intention. In 2013, the district received a Farm to School Planning Grant from the US Department of Agriculture to spend a year designing a comprehensive program, testing concepts, and establishing systems. Tricia Elisara, one of the program's coordinators, says that the commitment the district made through the acceptance of the federal grant led to a more structured

planning process than they would likely have used otherwise, but one that has resulted in deeper institutionalization and ultimately been a major boon for the program and the district. The district built edible education into the school's wellness policy *(see Julian Union School District Student Wellness Policy)*; developed a multi-year plan; dramatically expanded local offerings through the school lunch and breakfast programs; came up with innovative ideas for programming; and established a farm to school advisory committee that has met faithfully every Wednesday for nearly four years. As an example of the type of activity that the district might never have dreamed up without the time and meeting of minds that the planning year allowed, Tricia describes Julian's annual celebration of Food Day, a series of grassroots events organized every October across the nation. Julian's event is perhaps the most ambitious school-based Food Day program anywhere — district-wide, regular classes pause completely for an entire day dedicated to tasting, learning, and even singing about food and agriculture. In 2016, Julian ran 15 experiential workshops and welcomed more than 30 volunteers and many community groups onto the campus.

While not every district is lucky enough to receive funding specifically for planning, Julian's example demonstrates the value of taking time to dream, deliberate, and document. Their structured and thoughtful approach has resulted in edible education becoming a proud part of the fabric of the district and, hopefully, an important part of learning for generations of Julian students to come.

REFLECT, REVIEW, AND RENEW

If this report could be summed up in a single instruction for edible education programs, it would be to **reflect** — about whom they are including, about their purpose, about what community assets can bolster their programs, about how to support their work. When planning shifts into action, practitioners should keep that thoughtful and strategic spirit alive, thinking deeply about what's working and what's not, periodically reviewing their agreed-upon intentions, principles, and plans, and renewing (or not!) their commitments to them. *(see to-be-written Evaluation Field Report for more on program evaluation)*

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About the Edible Schoolyard Project

(placeholder)

The mission of the Edible Schoolyard Project is to build and share a national edible education curriculum for pre-kindergarten through high school. We envision gardens and kitchens as interactive classrooms for all academic subjects, and a sustainable, delicious, and free lunch for every student. Integrating this curriculum into schools can transform the health and values of every child in America.

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Edible Education Action Planning Template

Goals (2017-2018 School Year)	Action Steps (WHAT needs to be done now?)	WHO is responsible? (lead person and group members)	Timeline (BY WHEN do things need to be done?)	Resources Needed (people, money, materials, equipment, lessons)

Edible Education Action Planning Template

Long-term Ideas & Goals for Future School Years:

When I get back, three people I need to report back to are:
1.

2.

Edible Education Action Planning Template

3.

What I want to tell them...

What is one Ah-HA! moment that you don’t want to forget?

The Edible Schoolyard New Project Process

Project:
Dates:

THIS PROJECT WILL BE A SUCCESS IF

1.
2.
3.
4.

WE WILL COORDINATE AND COMMUNICATE ALONG THE WAY BY

1.
2.

WHO
Manager: Assigns responsibility and holds owner accountable. Makes suggestions, asks hard questions, reviews progress, serves as a resource, and intervenes if the work gets off track.

Owner: Has overall responsibility for the success or failure of the project. Ensures that work gets done (directly or with helpers) and that others are involved appropriately.

Consulted: Should be asked for input or needs to be bought in to the project.

Helper: Available to do part of the work

Approver: Signs off on decisions before they are final. May be the manager, though might also be ED
Informed: Doesn't hold any responsibility on the project, but should know what it going on.

Scope out the Project

Area of Work	Steps	Due	Who:	Status/Notes