

Sunday, June 25th

	Leek	Eggplant	Radish
2:00 - 3:00	Registration & Binder Pick-Up		
3:00	Bell Rings, Walk to King Dining Commons		
3:15 - 3:45	Welcome & Staff Introductions		
3:45 - 4:15	Who is in the Room Mixer		
4:15 - 5:15	African Indigenous Stories		
5:15 - 5:30	Closing		

Monday, June 26th

7:45 - 8:30	Leek in the garden classroom	Eggplant in the kitchen classroom	Radish in the staff lounge
	Breakfast		
	8:30 - 9:00 Introductions & Overview	8:30 - 8:55 Introductions & Overview	8:30 - 9:00 Introductions & Overview
	9:00 - 10:15 Infrastructure & Systems	8:55 - 10:15 A Typical Kitchen Class	9:00 - 10:30 Organizational Culture
	10:15 - 10:35 Break	10:15 - 10:30 Infrastructure & Systems	
	10:35 - 12:00 A Typical Garden Class	10:30 - 10:50 Break	10:30 - 10:45 Break
		10:50 - 11:20 Food Memory	10:45 - 12:00 Practical Program Tools
		11:20 - 12:00 Food Culture Discussion	
12:00 - 1:00	Lunch		
	1:00 - 3:00 Edible Education in the Garden	1:00 - 2:20 Edible Education in the Kitchen	1:00 - 2:30 Program Evaluation
		2:20 - 2:30 Break	
		2:30 - 3:25 Edible Education in the Kitchen	2:30 - 3:00 Break
	3:00 - 3:30 Break	3:30 - 3:45 Break	3:00 - 4:00 Reflect & Connect
	3:30 - 4:15 No Kitchen, No Problem		
	4:15 - 4:30 Feedback & Closing	3:45 - 4:20 Open Space Session	4:00 - 4:30 Feedback & Closing
		4:20 - 4:30 Feedback & Closing	

Tuesday, June 27th

	Eggplant in the garden classroom	Radish in the kitchen classroom	Leek in the staff lounge
7:45 - 8:30	Breakfast		
	8:30 - 9:00 Introductions & Overview	8:30 - 8:55 Introductions & Overview	8:30 - 9:00 Introductions & Overview
	9:00 - 10:15 Infrastructure & Systems	8:55 - 10:15 A Typical Kitchen Class	9:00 - 10:30 Organizational Culture
	10:15 - 10:35 Break		
	10:35 - 12:00 A Typical Garden Class	10:15 - 10:30 Infrastructure & Systems	10:30 - 10:45 Break
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12:00 - 1:00	Lunch		
	1:00 - 3:00 Edible Education in the Garden	1:00 - 2:20 Edible Education in the Kitchen	1:00 - 2:30 Program Evaluation
		2:20 - 2:30 Break	
		2:30 - 3:25 Edible Education in the Kitchen	2:30 - 3:00 Break
	3:00 - 3:30 Break	3:30 - 3:45 Break	3:00 - 4:00 Reflect & Connect
	3:30 - 4:15 No Kitchen, No Problem		
		3:45 - 4:20 Open Space Session	4:00 - 4:30 Feedback & Closing
	4:15 - 4:30 Feedback & Closing	4:20 - 4:30 Feedback & Closing	
5:00	Bus leaves from King Middle School, corner of Grant & Rose		
5:30 - 9:00	Dinner at Pizzaiolo, 5008 Telegraph Ave, Oakland, CA 94609		

Wednesday, June 28th

	Radish in the garden classroom	Leek in the kitchen classroom	Eggplant in the staff lounge
8:15 - 9:00	Breakfast		
9:00 - 10:15	Break-out Sessions #1		
10:15 - 10:45	Break		
10:45 - 12:00	Break-out Sessions #2		
12:00 - 1:00	Lunch		
	1:00 - 1:30 Introductions & Overview	1:00 - 1:25 Introductions & Overview	1:00 - 1:15 Introductions & Overview
	1:30 - 2:45 Infrastructure & Systems	1:25 - 2:45 A Typical Kitchen Class	1:15 - 2:45 Organizational Culture
	2:45 - 3:00 Break	2:45 - 3:00 Infrastructure & Systems	2:45 - 3:15 Break
	3:00 - 4:30 A Typical Garden Class	3:00 - 3:15 Break	3:15 - 4:30 Practical Program Tools
		3:15 - 3:45 Food Memory	
		3:45 - 4:30 Kitchen Culture Discussion	

Wednesday, June 28th

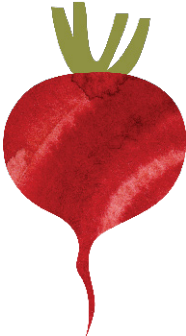


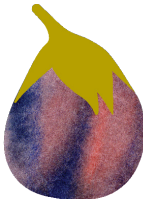
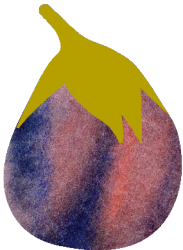




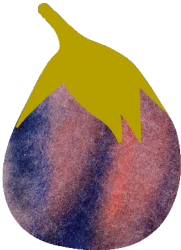


	Radish in the garden classroom	Leek in the kitchen classroom	Eggplant in the staff lounge
8:15 - 9:00	Breakfast		
9:00 - 10:15	<p>Break-out Sessions</p> <p>Title: Gardening 101 Facilitator: Wendy Johnson Location: Garden Ramada</p> <p>Session Description: This hands-on Gardening 101 session led by Wendy Johnson, our national treasure, offers practical instruction and engaged dialogue focused on the primary principles of organic agriculture including cultivation, fertilization, propagation and best practices for tending and maintaining your Edible education garden program.</p> <p>Title: Real School Food Facilitator: Ann Cooper Location: Staff Lounge</p> <p>Session Description: This session lays the foundation for why school districts take on the multi-layered work of shifting their programs from reliance on processed foods to scratch-cooking. Participants will learn about procurement, policies, labor, infrastrucutre and professional development for school food reform. This is an excellent introductory program for organizations that are just embarking on their school food program innovation.</p> <p>Title: Grassroots Fundraising Facilitators: Liza Siegler, Raquel Vigil</p> <p>Location: Dining Commons</p> <p>Session Description: In this workshop, we will explore how to approach raising money as an integral and transformational part of our programs—and a critical strategy for social justice. We will offer a practical and political framework for grassroots fundraising that looks at how to develop a broader, more diverse, more sustainable base of financial support by aligning our fundraising strategies with our program mission and goals.</p> <p>Title: Anti-Opression in Nutrition Education Part I *</p> <p>Facilitators: Elizabeth O'Gilvie, Kyle Cornforth Location: Kitchen Classroom</p> <p>Session Description: This session will be a space for conversation and exploration about racism in the intersection of the food system and education. We will work to build a foundation for approaching our personal, interpersonal, and institutional work around race, specific to working with kids around food. This session will include time with affinity/identity groups as well as full group collaboration. *This session is a double block. Participants should attend both.</p>		

Wednesday, June 28th

	Radish in the garden classroom	Leek in the kitchen classroom	Eggplant in the staff lounge
10:15 - 10:45	Break		
10:45 - 12:00	<p>Break-out Sessions</p> <p>Title: Gardening 101 Facilitator: Wendy Johnson Location: Garden Ramada</p> <p>Session Description: This hands-on Gardening 101 session led by Wendy Johnson, our national treasure, offers practical instruction and engaged dialogue focused on the primary principles of organic agriculture including cultivation, fertilization, propagation and best practices for tending and maintaining your edible education garden program.</p> <p>Title: Community Engagement Facilitator: Griselda Cooney Location: Staff Lounge</p> <p>Session Description: This panel brings together some of our local partners to discuss best practices and strategies for building community and buy-in for your program. Hear from City Slicker Farm, Growing Leaders at Willard Middle School, ESY alumni and parents, and the King principal about strategies that have been successful to foster community engagement.</p> <p>Title: Curriculum Development & Design</p> <p>Facilitators: Molly Rose-Williams, Rachel Fryke, Raquel Vigil Location: Dining Commons</p> <p>Session Description: Co-led by an elementary, middle, and high school teacher, this session is designed to offer you tools, strategies and practices to help you create curriculum that best supports your program goals and student learning objectives. Come ready to learn about some of our curriculum development best practices, share your own, and practice applying new tools and strategies to your own lesson design process with support from session facilitators. Bring a lesson you want to workshop.</p> <p>Title: Anti-Opression in Nutrition Education</p> <p>Facilitators: Elizabeth O'Gilvie, Kyle Cornforth Location: Kitchen Classroom</p> <p>Session Description: Session Description: This session will be a space for conversation and exploration about racism in the intersection of the food system and education. We will work to build a foundation for approaching our personal, interpersonal, and institutional work around race, specific to working with kids around food. This session will include time with affinity/identity groups as well as full group collaboration. *This session is a double block. Participants should attend both.</p>		
12:00 - 1:00	Lunch		

Thursday, June 29th

	Radish in the garden classroom	Leek in the kitchen classroom	Eggplant in the staff lounge
7:45 - 8:30	Breakfast		
	8:30 - 10:30 Edible Education in the Garden	8:30 - 9:40 Edible Education in the Kitchen	8:30 - 10:00 Program Evaluation
		9:40 - 9:55 Break	10:00 - 10:30 Break
	10:30 - 11:00 Break	9:55 - 11:10 Edible Education in the Kitchen	10:30 - 11:45 Reflect & Connect
	11:00 - 11:45 No Kitchen, No Problem	11:10 - 11:45 Open Space Session	
11:45	2017 Academy Class Group Photo		
12:00 - 1:30	Lunch with Alice Waters		
1:30 - 2:30	Group Collaboration & Action Planning		
2:30 - 3:00	Fill Out Evaluations		
3:00 - 3:30	Academy Closing		

	Monday	Tuesday	Wednesday	Thursday
Program Tools			Breakout Sessions	
				Closing
Kitchen Classroom			Breakout Sessions	
				Closing
Garden Classroom			Breakout Sessions	
				Closing

2017 Academy Staff Introductions

Edible Schoolyard Project Staff

Kyle Cornforth

Director, Edible Schoolyard Berkeley & Trainings

Through the past 17 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 In summer 2009, Kyle 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 has overseen the development and publication of curriculum, 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, the 2016 Intensive pilot, and the launch of the Edible Schoolyard Network. She has spent a lot of this year on the road, speaking and training, and conducting case studies of 6 programs we trained in 2016. Kyle has pushed the ESY team and organization to examine race, culture, and privilege in our daily work and as a movement. She loves to dance, cook, and hang out with her family.

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 her hometown of Sacramento. 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 Jalostotitlan. 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's 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

Hannah oversees the development and growth of the Edible Schoolyard Network program. She has lived in the Bay Area for eight years but was raised in Salt Lake City, Utah by a public school teacher. Hannah studied Public Policy and Politics Economics at Sarah Lawrence College. Before joining the Edible Schoolyard Project in the 2013, she worked as a campaign field organizer, nonprofit educator, and design writer.

Krissa Nichols

Operations Manager

Krissa's circuitous route to ESYN 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 ESYN's financials and budgeting process, as well as supporting fund development and ESYN'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 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.

Dr. Paul St. Roseman

Dr. Paul St. Roseman holds a Doctorate in Education with an emphasis in Leadership and Evaluation. With expertise in adult learning, transformative learning and evaluation theories, Dr. St. Roseman has over 20 years of experience modeling education and human service programming initiatives, designing and implementing data management systems, and coaching administrative leaders (and their staff) in the use of organizational data. He has assisted both private and public organizations to build institutional research capacity to use data for purposes of organizational planning, professional development, fundraising, strategic positioning, and accountability reporting. With a client base that extends nationally, Dr. St. Roseman has designed, implemented and managed data collection, analysis and reporting processes for federal, state, and county programs that include; Federal Title V and TRIO Programming, state funded programming in the areas of gang prevention and domestic violence, as well as school district initiatives designed to improve teacher recruitment/development.

Dr. St. Roseman has: designed and implemented over 10 multi-year evaluation studies; authored over 25 federal, state or privately funded evaluation reports; and created/facilitated over 30 multimedia training modules within the Human Service and Educational sectors. Additionally, he has supported the training and professional development of hundreds of human service professionals. Dr. St. Roseman currently develops and implements curricula for the UC Davis Extension Center for Human Services. He is also co-authoring a book with Dr. Greg Tanaka entitled *The Intercultural Organization*

Raquel Vigil

Raquel Vigil grew up in San Francisco and is the oldest of 6 in a family of Chicano artists, educators and community organizers. For as long as she could remember food has been an integral part of her life. Professionally, she has been a pastry chef, farmer, baker, food advocate, educator, teacher and consultant. She has worked in kitchens and on farms all over California and the Northeast of the U.S. She received a B.A in Urban Education from Hampshire College. It is here that she saw snow for the first time and cultivated her first plants. She is a graduate of the San Francisco Culinary Academy where she earned a degree in Pastry. She also holds a certificate in Horticulture from the Center for Agroecology and Sustainable Food Systems at the University of California Santa Cruz. She is the former Director of Food and Agriculture at Mission High School in San Francisco, where she formalized a Career Technical Education Program in Urban Agriculture for 10-12th grade students. She is currently working with the Edible Schoolyard Project on a High School Food Program Network, working to build strategies to support and convene programs around models of support, curricula, and best practices.

In the fall, she will be attending Teachers College at Columbia University for a ED.M. in Curriculum and Instruction. She hopes to engage in work that uses food as a lens to challenge hegemony in high school classrooms, working to educate our future food changemakers. In her free time, she loves going to concerts, sitting in the sun and making cakes.

Rachel Fryke

A transplant from Colorado, Rachel first heard the term "food justice" during a service-learning trip at UC Berkeley and her life hasn't been the same since. After graduating with a degree in Peace & Conflict Studies, she coordinated programs to engage underserved girls in science, technology, and engineering and, in 2014, joined the ESY team as the Garden AmeriCorps member, combining her excitement for experiential learning with her love for food justice. She's passionate about transforming the education system to better meet the needs of its students and communities and believes in the power of food and garden-based programming to support this transition. In her current role as the Garden Educator and Associate Science Teacher at Black Pine Circle School, an independent K-8 in West Berkeley, she's exploring how to integrate her work in nonviolent communication, anti-racism, climate justice, coaching, maker-centered learning, and permaculture into her teaching practice.

Ruby Olisemaka

We who do this liberation work want to bring about a revolution in our lifetime; we have deemed, with sadness, the current national and international power structure not fit to ensure and promote the full expression of life. Ruby is a part of a collective, a movement of people wanting to bring about a more just world. She is a farmer and teacher, a spiritualist and budding herbalist, an afro centrist and naturalist. Her path as a farmer began with an apprenticeship at Stone Barns Center for Food and Agriculture in 2011. Ruby has kept her hands in the soil ever since, building urban, suburban and periurban gardens in lower Westchester and Harlem. She teaches (in classrooms, gardens, spaces where people can gather) children and adults how to do the work on land. A farmer can rarely escape the intersections of poverty, politics, food access or justice when farming sustainably. Ruby is an activist working to dismantle the food and health related injustices Africans and people of African descent endure.

Elizabeth Wills-O'Gilvie

Liz serves as the chair of the Steering Community of the Springfield Massachusetts Food Policy Council. And as the Board Chair of the youth development, urban farming organization, Gardening the Community (GTC). In her broader work in the Food System, Liz also serves as a Project Advisor with the team that developed and is implementing the 2016 Massachusetts State Food System Plan and best of all; she is a school garden coordinator and teacher.

Her work in the food system, public health consulting and community building cuts across racial and socio-economic lines and is built on 25 years of experience working on Community Economic Development efforts in marginalized communities across the country including affordable housing development and inner-city retail development.

She now uses those lessons learned from brick and mortar development in her work with people, schools, gardens and farms. Liz is a critical thinker about issues relating to class, race, gender, culture and privilege and thinks of herself as a "personal trainer" helping people to get comfortable with the discomfort that comes with conversations about the above. Her work is driven by her belief that we each have an inherent ability and responsibility to transcend, history and current circumstance. She understands that

change happens at the speed of trust and that trust between the rich and poor; and whites and others is hard won. Yet when achieved, becomes the compost that fertilizes change. Considering that where we live, work, and eat directly impacts our life outcomes and expectancy, Liz is committed to ensuring that all of the children and families living in her city have equitable access to healthy, locally grown and produced food.

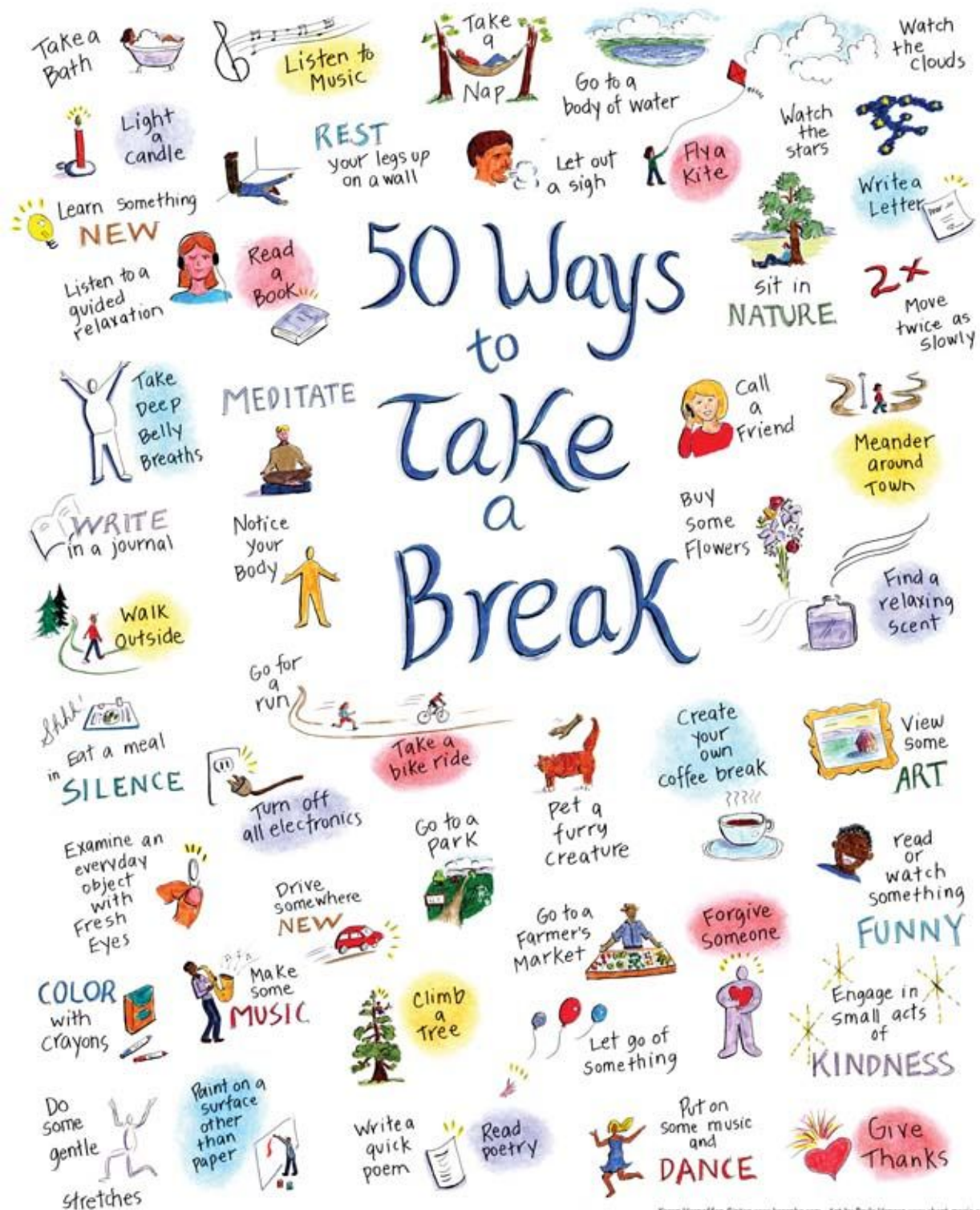
She lives and works in Springfield Mass a place she calls a mini Detroit. The nearest grocery store is nearly 3 miles away but there are ten McDonalds in under a mile. Her husband Ed, a public school teacher and their six year old son Evan, a budding urban farmer/superhero have become wheelbarrow masters sine Liz commandeered two empty lots near their home. In her free time Liz borrows one of Evan's capes while gardening, biking, and dreaming of change!

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 (V)	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 (V)	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

(V) 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





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?)



Greens Over Grains

Summary

In this 6th grade humanities lesson, students complete the seed to table cycle by preparing sautéed greens and serving them over grains that were grown in the Edible Schoolyard garden. Students learn and practice basic knife skills and safety.

Objectives

After this lesson, students will be able to:

- Identify a variety of greens by name
- Practice basic knife skills while demonstrating proper knife safety and care
- Follow a written recipe to prepare a basic dish

Assessments

During this lesson, students will:

- Identify a variety of greens by name
- Mince or slice ingredients while demonstrating proper knife technique, safety, and care
- Distinguish between the "Ingredients" and "Directions" sections of the Sautéed Greens recipe and follow the recipes written instructions to prepare the greens

Materials

For the Chef Meeting

- Sautéed Greens recipe
- Ingredients and tools for demonstration
- Visual aid

Ingredients

- Assorted grains (such as millet, quinoa and/or barley)

For the Sautéed Greens

- Assorted greens (such as dinosaur kale, bok choy, rainbow chard, and collards)
- Olive oil
- Ginger
- Garlic
- Soy sauce
- Toasted sesame oil
- Rice vinegar (optional)

Tools

- Cast Iron Skillet
- Garlic peeler



- Wooden spoon
- Chefs' knives
- Paring knives
- Cutting boards
- Measuring cups
- Measuring spoons

Equipment

- Stove

Before you Begin

- Collect all the tools and ingredients, and then distribute them to the tables.
- Gather supplies for the Chef Meeting
- Create the visual aid
- Copy the Sautéed Greens recipe to hand out
- Copy the Millet & Quinoa recipe to hand out
- Cook the grains (millet, quinoa, and/or barley)

Procedures

At the Chef Meeting

1. Welcome students to the kitchen. Review the "4 Be's": Be Safe, Be Responsible, Be Respectful, and Be an Ally. Emphasize that today, as the students' first time cooking in the kitchen, they will have the opportunity to practice these 4 Be's.
2. Introduce the lesson for the day: Greens over Grains. This is a chance for students to prepare food from the garden while learning basic knife skills, safety, and care.
3. Ask students if there are any foods on the board that they recognize growing in the garden.
4. Ask students to identify the greens by name. Emphasize that they may use the visual aid as a resource. Hold up the greens one by one. Ask students to raise their hands quietly when they know what a green is called, and all call out the name on the count of three. For some greens, have students yell as loudly as they can, for others have them whisper, or ask them to identify the greens in happy, tired, confused, or other kinds of emotive voices.
5. Show students a copy of the Sautéed Greens recipe. Explain that they have just identified most of the ingredients they'll be using, and that these recipes will give them all the information they need about what to do with those ingredients - at the top of the recipe is a list of ingredients and amounts, and the bottom has the directions, or what to do with the ingredients. Emphasize that the "4 Be's" will be especially important for the students to successfully prepare the meal because our goal as teachers is to have them work as independently as possible. The recipe and their group mates will be their most valuable resources.
6. Ask students to wash their hands and go to their table groups.



At the Table

1. Break into table groups, and lead a small group check-in. (What is a food that you would like to learn how to cook?)
2. Demonstrate how to mince the garlic and prepare the greens as part of a knife skills and safety demonstration (see “Knife Skills and Safety Demonstration” resource).
3. Assign cooking jobs.
4. Prepare the recipe and set the table.
5. Eat.
6. Clean up.

At the Closing Circle

7. Ask students to rate the meal on a scale of 1 to 5. If there is time, ask students to name one new skill or fact that they learned in the class today.

Teaching Notes

- Identifying the Greens: We like to vary how we ask for the students to respond when they are identifying the greens by name in the Chef Meeting. Mixing high and low volume responses helps to modulate the energy and prepare them to be attentive listeners during the knife skills and safety demonstration. Introducing the greens this way is fun, and generates ownership and excitement around the food.
- Visual aid: Clearly labeled visual aids that identify the ingredients in this lesson are key in creating access for all of our students. Different students enter the kitchen with varying experiences with cooking and the ingredients we use in this lesson. We want all of our students to be able to participate fully from the beginning, and we never want a student to feel inadequate or unwelcome for not already knowing something that one of their peers does. When we ask students to identify the greens during the Chef Meeting, we explicitly refer to the visual aid as a “resource” and ask students to “do their research” before we ask for them to call out the name. We wait to ask for them to call out the name until all hands are in the air. Asking students to call out as a group instead of calling on individual raised hands is an equity strategy because it provides access for students who reach the answer more slowly than their peers.
- Bok choy and cultural imperialism: We have noticed that some of our students respond to the name “bok choy” by mocking it with caricatured chicken-like clucking noises or saying the name with a stereotypical Asian immigrant accent. We have noticed a similar pattern in recipes that use hoisin sauce, which some students will jokingly refer to as “poison sauce”. Though such reactions are meant jokingly and almost always represent no intentional malice or ill-will on part of the student, we still recognize them as manifestations of the xenophobia and racism in American culture that labels anything outside of mainstream, dominant white culture as “other”. We address these moments as



they occur, often by naming what we see, asking a question that prompts the student to reflect more critically on their response, or prompting the student to consider their response from another's point of view ("It sounds to me like you're making fun of the name of this ingredient. Is that what you mean to be doing when you say that/make that noise?"; "What makes you say that/make that noise? Do you think you would make similar jokes about X ingredient that you're familiar with?"; "How do you think you would feel if I made fun of X ingredient that is important to you?"). We also address these reactions pre-emptively in our Chef Meetings. We explain to students that they may be encountering ingredients and foods that they are unfamiliar with in the kitchen, and that sometimes lack of familiarity can lead to impulses to mock or make fun of something. We encourage them to notice these impulses when they arise and make the choice to lean into that discomfort instead of pushing it away - ask a question because there will almost undoubtedly be someone at the table who is quite familiar with the food.

- Recipe-reading: We explicitly introduce the format for reading the Sautéed Greens recipe, noting that many recipes will have a similar format – a list of ingredients with their amounts at the top and directions at bottom. We emphasize that you must read the directions to know what to do with the ingredients.
- Knife skills and safety demonstration: This is the first time our sixth grade student work with knives in the kitchen space so we start the lesson with a knife skills and safety demonstration. As part of the demonstration, we recognize that some students might have experience with knives at home, but that the guidelines around knives in this space are different because there are different concerns and constraints with so many people working at once. This helps to draw the attention of students who may otherwise feel that the guidelines are irrelevant to them. For a more detailed description of our knife demonstration, see "Knife Skills and Safety Demonstration" resource.
- Help and consent: Because this is the first time cooking with these students, we pay special attention to noting the skills and levels of experience with cooking our students are bringing to the table. We moderate group dynamics so that every student feels welcome, accomplished, and a sense of ownership over the space regardless of cooking skills. For experienced students wanting to showcase those skills by helping their less-experienced peers, we often prompt them to ask their peers if they want or need support before they jump in to "helping" them.
- Team-building and cleaning: As the first time cooking in the space, this is also the time to establish team ownership of tasks including cleaning.
- Academic connections: This lesson is an excellent opportunity to review the seed-to-table cycle or the Paleolithic domestication of grains (Sixth Grade California State History-Social Science Content Standard 1.3). In years' past we have included both of these themes in our Chef Meeting. We decided not to this year in order to cut down on the direct instruction that happens at the beginning of class to make sure we have all of the students' fresh attention for the knife safety and skills demonstration, and to give plenty of time to cooking and eating.
- Double-sided recipes: We like to copy the Millet & Quinoa recipe on the back



of the Sautéed Greens recipe so that that students can easily take both recipes home.

Vocabulary

Sauté

Mince

Slice

Chop

Fibrous

Whole grain

Connections to Standards

California Common Core English Language Arts Standards, Science & Technical Subjects

RST.6-8.3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

Edible Schoolyard 2.0 In the Kitchen, Grade 6

Tools 1.3 Identify different knives from the ESY Toolbox and demonstrate basic knife skills, safety, and care with guidance.

Techniques 2.4 Identify ingredients by name, and discuss them using descriptive words in conversation

Concepts 3.8 Approach lessons with intention by thinking through how the recipe relates to the kitchen, garden, and wider environment as a whole.

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

Greens Over Grains Visual Aid

Sautéed Greens Recipe

S A U T E D GREENS

3 BUNCHES ASSORTED GREENS* - WASHED AND CHOPPED
*(SUCH AS KALE, CHARD, COLLARDS, BOK CHOY)

3 TABLESPOONS OLIVE OIL

1 INCH PIECE GINGER - PEELED AND MINCED

8 CLOVES GARLIC - PEELED AND MINCED

4 TABLESPOONS SOY SAUCE

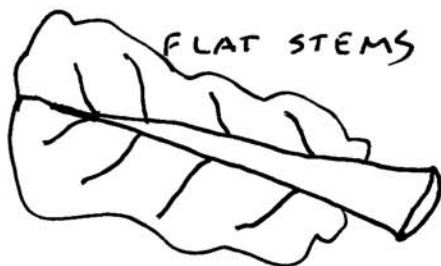
2 TABLESPOONS TOASTED SESAME OIL

- WASH THE GREENS IN COLD WATER. COMPOST THE ROUND STEMS. SLICE THE FLAT STEMS, CHOP THE LEAFY TOPS AND PUT STEMS AND LEAVES IN SEPARATE BOWLS.
- IN A HEAVY BOTTOMED POT, HEAT THE OLIVE OIL OVER MEDIUM HEAT. ADD THE MINCED GINGER AND GARLIC. WHEN THEY BEGIN TO SIZZLE ADD THE STEMS AND COOK FOR 1-2 MINUTES.
- ADD THE CHOPPED LEAFY GREENS AND COOK FOR 4-5 MINUTES. ADD THE SOY SAUCE AND TOASTED SESAME OIL AND COOK UNTIL TENDER, ABOUT 4-5 MINUTES. SERVE OVER COOKED GRAINS.

WHICH STEMS DO WE EAT?

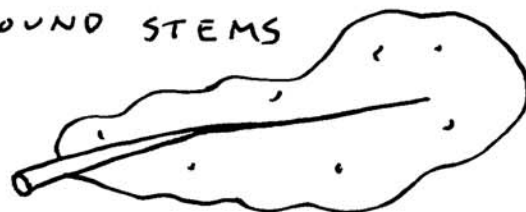
COOK:

FLAT STEMS



COMPOST:

ROUND STEMS



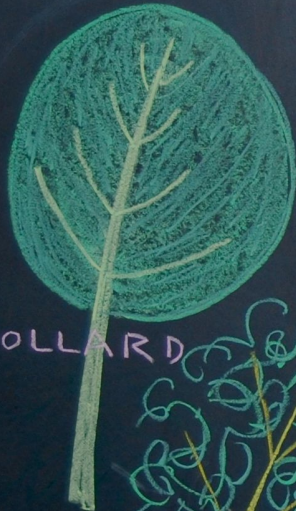
GREENS



DINO
KALE



BOK
CHOI



COLLARD



RAINBOW

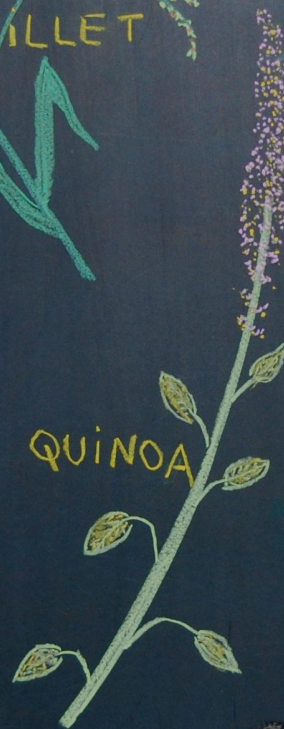
CHARD



ANCIENT GRAINS



MILLET



QUINOA



AMARANTH



BARLEY

TERMS + TECHNIQUES

STEM

FIBROUS

WHOLE GRAIN

MINCE

CHOP

SLICE

SAUTÉ



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 1 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?



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.



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 student 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 student's answer should be 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 people's 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.”

Edible Schoolyard Kitchen Floor Plan



Kitchen Program – Kitchen Infrastructure and Systems
 Take Home 1 of 4
 Academy 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

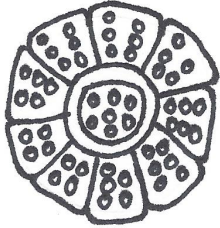
Cooking Station Cupboard:

- 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

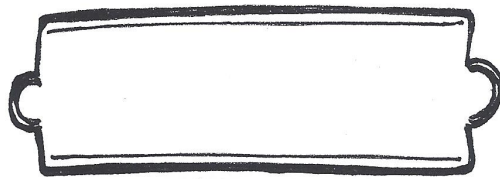
Cooking Station Countertop:

- 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

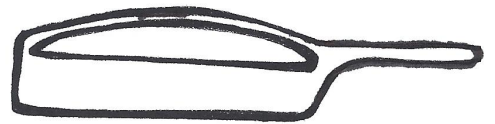
CUPBOARD INVENTORY



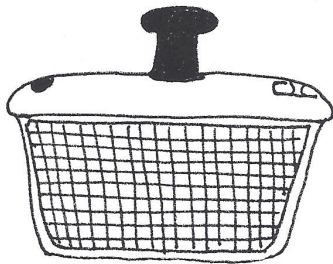
STEAMER



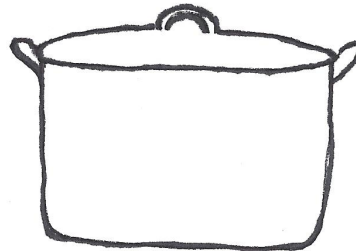
CAST IRON
GRIDDLE



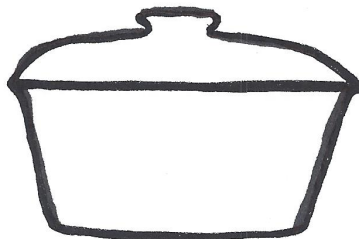
CAST IRON
SKILLET



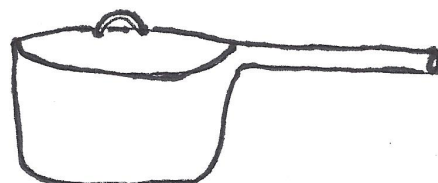
SALAD
SPINNER



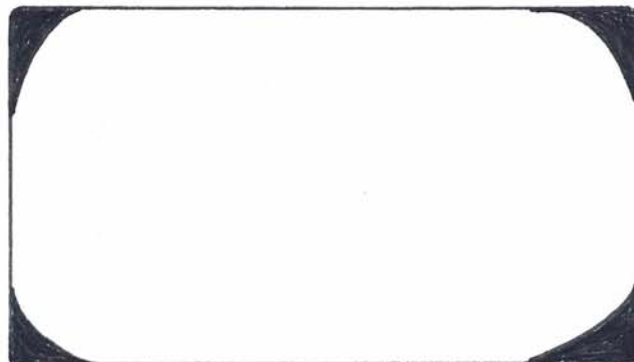
STOCK
POT



DUTCH
OVEN



SAUCEPAN





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 made it to Northern India where they found the Yuezhi. The Yuezhi (now the Kushan) refused to ally with the Chinese against the Xiongnu. They

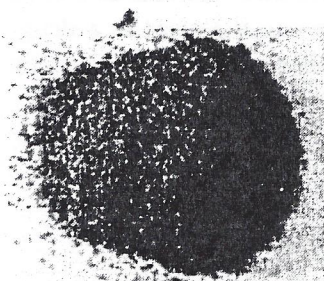


were not interested in revenge and had become trading people. They wanted to maintain peace. On their way back to China, Zhang Qian and his men saw “heavenly horses” native to Central Asia. They wanted to obtain these horses because they believed that these huge horses would strengthen their army so that they could face the Xiongnu.

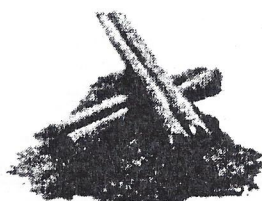
4. Prompt students to reference the visual aid: What were some items the Chinese may have traded for these horses? What made silk especially valuable as a trading item? It was light-weight, packable, couldn't break, and only the Chinese knew how to make it.
5. They exchanged a variety of goods for the 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.



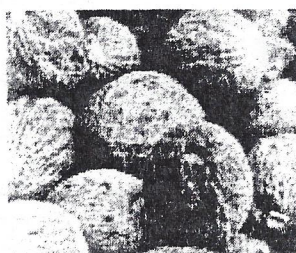
Black Pepper commonly referred to as "peppercorn" is native to South India. It has been used as a spice in India since prehistoric times. Peppercorns were a prized trade good along the Silk Road, often referred to as "black gold" and used as a form of money. The 5th century *Syriac Book of Medicines*, 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.

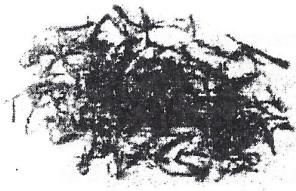


Ginger has a long history of cultivation known to originate in China and then spread to India, Southeast Asia, West Africa, and the Caribbean. Besides being used throughout the world for cooking, ginger is also well known for being used to disguise the taste of medicines. Ginger may also decrease joint 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.

Dodan



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 of 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 drug-ging 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 peppercorns were 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 you '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} Roman 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 fades when you're at my side

negative

today we are tasting:

OBSERVE THE PHYSICAL TRAITS OF EACH VARIETY TO COMPLETE THE TABLE

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 _____.



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?



Chemistry in the Kitchen



DETERMINING

the

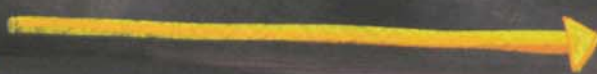
pH

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

WHAT FACTORS IMPACT YOUR FOOD CHOICES?



HEALTH &
NUTRITION



LABOR &
JUSTICE



ENVIRONMENT



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 Lesson Series

Overview

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.



Writing a Recipe for the Kitchen Classroom

We make a point of writing our recipes by hand and including illustrations when possible. Our tone is kid-friendly and clear. Our recipes (with the exception of baking) are quite flexible to maximize seasonality and to accommodate student input. We create our recipes to be replicable in a home kitchen with basic tools and equipment. Students are encouraged to take recipes home and tell us about their personal adaptations and results.

General Tone

- Write in complete sentences
- Be succinct
- Clearly state steps and methods

Layout and Specifications

- Title of recipe
- List ingredients in order of use
- Write out measurements, do not use abbreviations
- Include prep directions with the ingredient, i.e.: 2 cloves garlic, peeled and minced
- If applicable, note oven temperature in the first sentence of the method section



Choosing and Adapting a Recipe for the Kitchen Classroom

Summary

Our recipes (with the exception of baking) are designed to be flexible in order to maximize seasonality and accommodate student input. Rather than create an entire recipe from start to finish, we often take an existing recipe and adapt it to fit our needs. All of our recipes are vegetarian, and we add greens to just about everything! We create our recipes to be replicable in a home kitchen with basic tools and equipment, and we encourage students to take recipes home.

We choose recipes that can be completed in a single 86 minute class period by a group of 8-10 students. Our recipes are intended to be a generous tasting portion, not a full meal. When possible, we want our students to have seconds or take a sample home in a to-go container.

Choosing a Recipe

What we cook is the central part of every kitchen class. When creating lessons for kitchen class, there are two primary questions we ask:

1. What kitchen skill or life skill do we want our students to learn or practice?
2. Is there a recipe that will highlight a specific academic connection?

Regardless of whether the lesson is academic or life skills based, we choose recipes that will be a tangible reinforcement of the concepts we want to teach.

What is the kitchen skill or life skill we want our students to learn?

When we want to introduce a new knife skill or cooking method to our students, we look for a recipe that emphasizes that specific technique and we select a recipe that allows the maximum number of students to practice that knife skill or cooking method. For example, during our Maki Sushi lesson, we teach our students how to cut vegetables into a matchstick. We provide an array of vegetables, such as carrots, Daikon radishes, and watermelon radishes so that as many students as possible get the opportunity to cut vegetables into matchsticks.

Does the lesson have an academic connection?

For our lessons with an academic link, we choose recipes that will most strongly illustrate the curricular connection. Our recipes support the academic content taught at the Chef Meeting so that cooking becomes a tangible reinforcement of the academic concepts.

When we are teaching a history lesson, we look for recipes representative of a region or ingredients that originated in a particular place. We will often change or adapt these recipes to fit our needs by adding or taking away different ingredients. For example, when we teach a history lesson on the four climatic zones of the Arabian Peninsula, we make



sure that each of the four climatic zones is represented with an ingredient that originated in that zone: pomegranates for the mountains, dates for the oases, wheat for the coastal plains, and yogurt for the desert. We then chose a recipe (or in this case, recipes) that will highlight each of these ingredients.

Adapting a Recipe

Once we decide on a recipe, we adapt the recipe to fit our needs. Many of our recipes in the kitchen are flexible and can be altered depending on the season, the availability of ingredients, or personal preference. Our style at the Edible Schoolyard is to add vegetables! Adding vegetables to a recipe has many benefits. First, it ensures that our students are eating and learning to cook a variety of vegetables. Also, it increases the number of cooking jobs available to students. Lastly, adding vegetables allows us to incorporate more vegetables and herbs that are available in the garden. When adapting a recipe for the Edible Schoolyard kitchen, we ask these key questions:

1. Will the students be excited to prepare the recipe(s) and eat the finished result?
2. Can we complete the recipe(s) in a class period?
3. Are there enough cooking jobs?
4. What can we use from the garden or is there a seasonal ingredient we want to highlight?
5. Will our students be able to make the recipe(s) at home?

Will the students be excited?

We want the students to be excited about all aspects of kitchen, from the preparation of the recipes to eating. One of the best ways to ensure that students are enthusiastic about cooking is to make sure that the food they eat tastes delicious. We test recipes before we prepare them with students to check flavors and timing. Also, introducing new ingredients, knife skills, and cooking methods fosters student buy-in and gets our students excited about trying new foods.

Can we complete the recipe in a class period?

If the class period does not allow for all the cooking time necessary, we have a few ways we speed up the process. For recipes requiring boiling, we always make sure the water is on the stove before the students enter the kitchen classroom, and if we are using the oven we always make sure it is preheated. If time is running tight on a given recipe, we might partially cook or steam denser vegetables, such as potatoes, before the students arrive so that the vegetables cook more quickly once they are added to the recipe.

Recipes such as Soft Pretzels and Hand-made Pasta require time to rise or rest, and we take this as an opportunity for one class to help another. In these cases, students cook with the dough from the previous class and they make the dough for the next class. We make the dough for the very first class of the lesson to get this process started.



We use a similar system when we cook with vegetable stock. When cooking with vegetable stock, students save their vegetable scraps so cooking teachers can make stock for the next class. We make the first batch of vegetable stock for the first class of the lesson to get this process started. We typically keep the vegetable stock warm throughout class to speed up the cooking process.

Are there enough cooking jobs?

During every kitchen class students take part in preparing the ingredients, cooking, and setting the table. We like every student to have the opportunity to try any and all of the jobs they are excited about.

Choosing recipes with plenty of cooking jobs ensures that our students stay focused and engaged for the entire kitchen class. Kitchen jobs, of course, change depending on what is being prepared. When planning a lesson, the kitchen teachers read through the recipe and discuss what the cooking jobs will be. Ingredients typically determine how each recipe is divided up into cooking jobs, but cooking jobs are often flexible and are contingent on the interests and skills of the students.

If there is not enough work to keep all the students engaged for the entire period, we often add vegetables, typically greens, to the recipe. However, if there is still not enough work for all of the students, we will consider adding a second recipe that will complement the first. For example, when we made Quick Irish Soda Bread with our students, the cooking groups finished the recipe so quickly that the students did not have enough to do while the bread baked in the oven. We then decided to add a homemade Chai that could be served with the soda bread.

Once the steps of the recipe have been explained, chef teachers hand the execution over to the students. The chef teacher's role is to ensure safety and cooperation and to prompt students and offer reminders. All the mincing, measuring, stirring, and cleaning should be done by the students.

Sometimes there are lulls once a student has finished his/her task. Here are some examples of auxiliary cooking jobs students complete during down time:

- Create a centerpiece for the table
- Fold napkins
- Slice lemons or harvest mint for the water

What can we use from the garden? Is there a seasonal ingredient we want to highlight?

By using garden produce in every lesson, we hope to instill in students the importance and pleasure of eating seasonally, an important factor when a student is trying something for the first time. Because we cook seasonally we know they are using ingredients at their peak flavor, and eating fresh, seasonal foods is a great way to introduce new ingredients to



our students while fostering a deeper understanding of garden science. This requires working with the garden staff to plan when in the school year certain ingredients might be ready or ensuring that garden produce is available when needed.

Will our students make the recipe(s) at home?

We encourage our students to cook at home, therefore we prioritize recipes that are easy to replicate in a home kitchen with basic tools and equipment. We choose ingredients that are easy to find and affordable to buy. Also, we often write recipes to include optional ingredients, which encourages students to make it their own. The more adaptable and flexible a recipe, the easier it is to duplicate in a home kitchen with available ingredients.



Edible Schoolyard Garden 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.
 - o 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:
 - o Roasting potatoes
 - o Roasting beets
 - o Roasting carrots
 - o 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

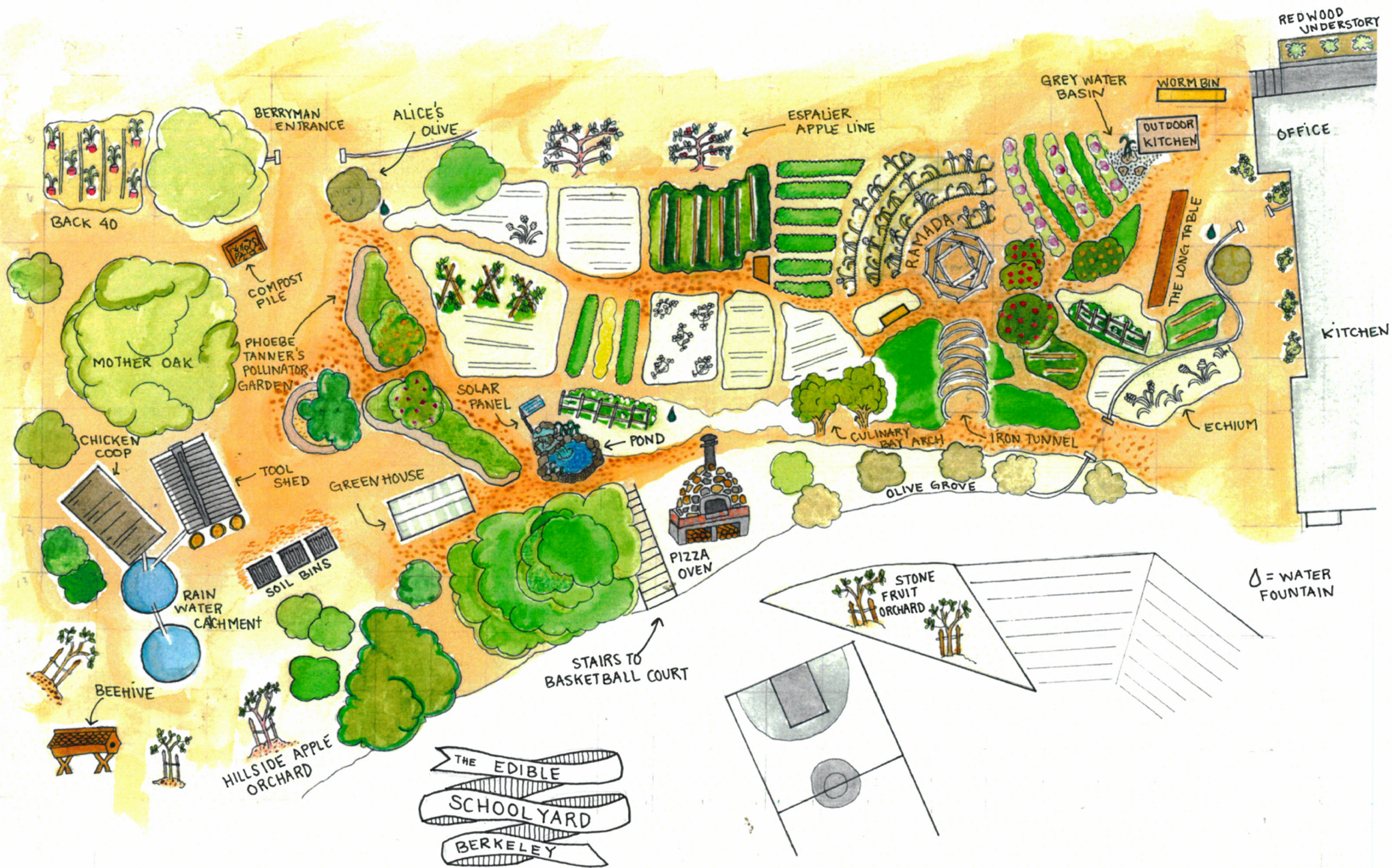


blacktop.

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.





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 scrappers
- 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		<u>Edible Schoolyard 1.0 In the Program:</u> Techniques 2.7: Students follow a set of rituals and routines that help work go smoothly and develop into lifelong habits	<u>BUSD's Behavioral Expectations</u> <ul style="list-style-type: none">• 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		<u>Edible Schoolyard 1.0 In the Program:</u> 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.	<u>Common Core:</u> comprehension and collaboration grade 6



Edible Schoolyard Garden Classroom 6th Grade Scope and Sequence

G6 – 2	Garden Work	Review “Respect in Garden,” emphasize systems/ tool shed orientation	Tasting		<u>Edible Schoolyard 3.0 In the Garden, grade 6:</u> 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	<u>Common Core:</u> comprehension and collaboration grade 6
G6 – 3	Compost Lab	Big ideas unit, cycles of matter, FBI	Tasting		<u>Edible Schoolyard 3.0 In the Garden, grade 6:</u> Techniques 2.3: Observe fungus, bacteria, and invertebrates in decomposition;	<u>California State Standards:</u> 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			<u>Edible Schoolyard 3.0 In the Garden, grade 6:</u> 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.	<u>MS-LS1-4:</u> 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. <u>MS-LS1-5:</u> Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms. Clarification statement:



Edible Schoolyard Garden Classroom 6th Grade Scope and Sequence

						Examples of local environmental conditions could include availability of food, light, space, and water.
G6 – 5	Garden Work	Garden work	Tasting		<u>Edible Schoolyard 3.0 In the Garden, grade 6:</u> 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	<u>California State Standards:</u> 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 <u>220 lbs total</u>	<u>Edible Schoolyard 1.0 In the Program:</u> Concepts 3.11: Understand seasonality by recognizing and enjoying foods at their peak of flavor and ripeness. <u>3.0 In the Garden, grade 6:</u> Techniques 2.4: Harvest and prepare crops with guidance, recognize the	<u>California State Standards:</u> Number Sense 6.1.1: Write and solve one-step linear equations in one variable



Edible Schoolyard Garden Classroom 6th Grade Scope and Sequence

					relationship between the kitchen and the garden, and learn the seed to table concept.	
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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		<u>Edible Schoolyard 1.0 In the Program:</u> Concepts 3.11: Understand seasonality by recognizing and enjoying foods at their peak of flavor and ripeness.	<u>Common Core:</u> Grade 6, Comprehension and collaboration
G6 – 9	Garden Work	Garden work	Tasting		<u>Edible Schoolyard 3.0 In the Garden</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
G6 – 10	Garden Work	Garden work	Tasting		<u>Edible Schoolyard 3.0 In the Garden</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
G6 – 11	Flower Discovery	Structure and	Tasting		<u>Edible Schoolyard 3.0 In the</u>	



Edible Schoolyard Garden Classroom 6th Grade Scope and Sequence

		Function of a Flower			<u>Garden, grade 7:</u> Concepts 3.9: Observe the garden as 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

BE SAFE

Open-
mindedness

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:
 - o 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.)
 - o What do FBI need to survive? (Answer: Food, air and water.)
 - o Importance of heat as a measure of decomposition: What does heat signify? (Answer: Active, healthy bacteria populations.)
 - o 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: pitchforks, 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: pitchforks
- 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.
- o 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.
- o 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.
 - o If harvesting crops that continually produce, be sure to demonstrate harvesting no more than 20% of the plant, leaving sufficient leaves for new growth.
 - o If harvesting alliums such as onions or shallots, be sure to demonstrate the use of a trowel.
 - o 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.
 - o 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**:
 - o 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?
 - o Different stages of harvest: Harvesting of seeds versus fruits versus leaves
 - o 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.
 - o If sowing, review seed packet.
 - o Fill token amount of flat with soil and demonstrate how to sow/plant one or two seeds/seedlings.
 - o Demonstrate how to label flat and water.
 - o 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 choy, 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.



- o Paint over old signs.
- Harvest worm castings
 - o With students, shovel out small amounts of decomposed material into a wheelbarrow and pick out the worms, returning them to the worm bin.
 - o 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
 - o Before starting a recipe, consider the work that needs to be done and organize it into job groups or categories.
 - o 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).
 - o 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!
 - o 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 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:
 - o Clean and put back tools in the tool shed (tools with red tape outside, tools with yellow tape inside).
 - o Head back to the Ramada for closing circle.
- Participate in **tastings**:
 - o Wait until everyone is served.
 - o 6th grade: Share his/her name and a description of the tasting based on the five senses.
 - o 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!
 - o 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.
- o 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
- o 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
 - o 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.
 - o 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?

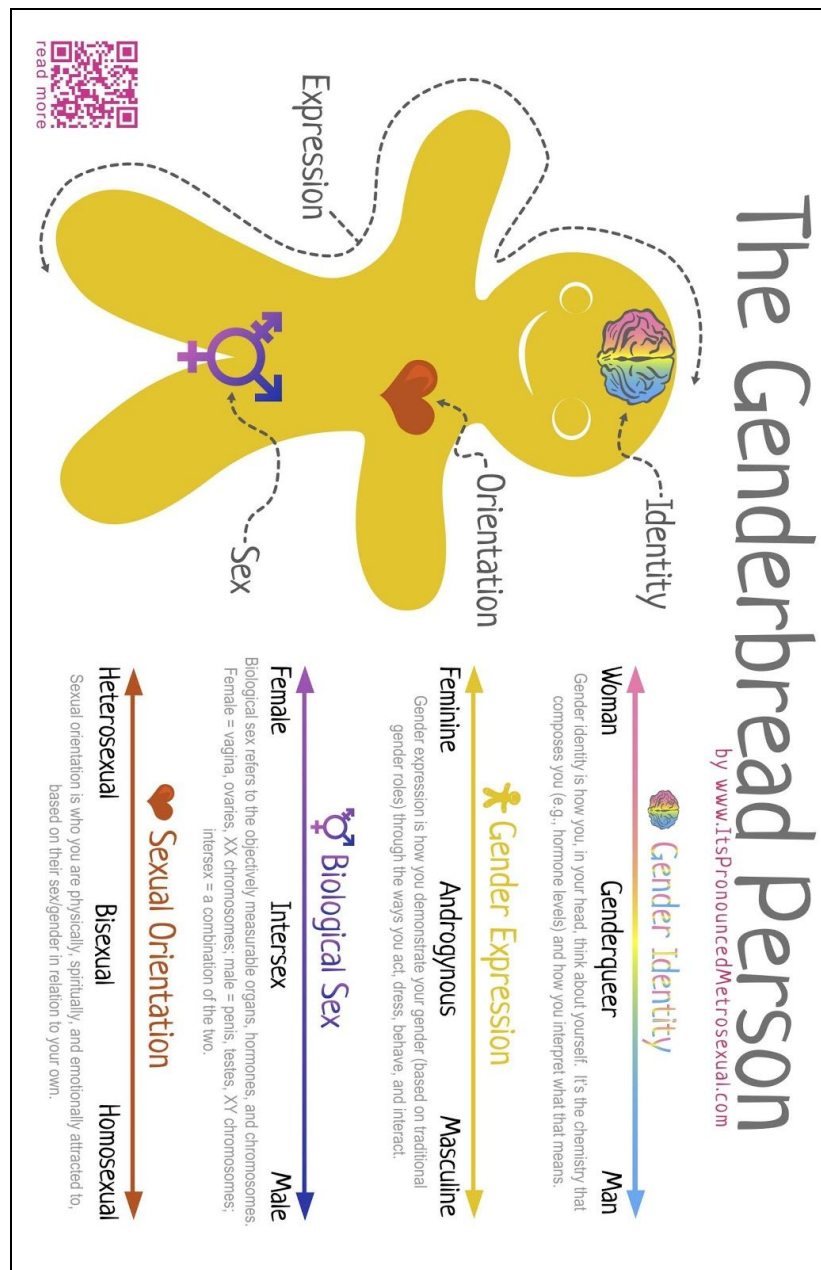
Restorative Questions: To respond to challenging behavior

- 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.





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

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.

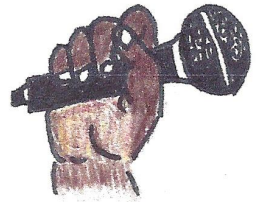
BEAUTY

- FOR US NOW
- FOR PEOPLE COMING AFTER US



FOCUS

- ON TASK
- TAKING INITIATIVE
- ONE VOICE IN CIRCLE



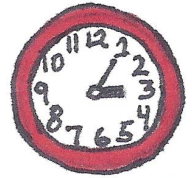
JUSTICE

- ACCOUNTABILITY
- SHARING, FAIRNESS



WASTE

- TIME
- WATER
- ASK BEFORE PICKING



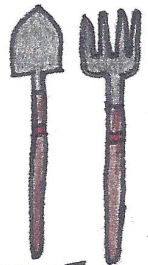
PEOPLE

- FLEXIBILITY & MATURITY
- INCLUSIVITY
- RESPECT & KINDNESS



TOOLS

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





Reflection Cards

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

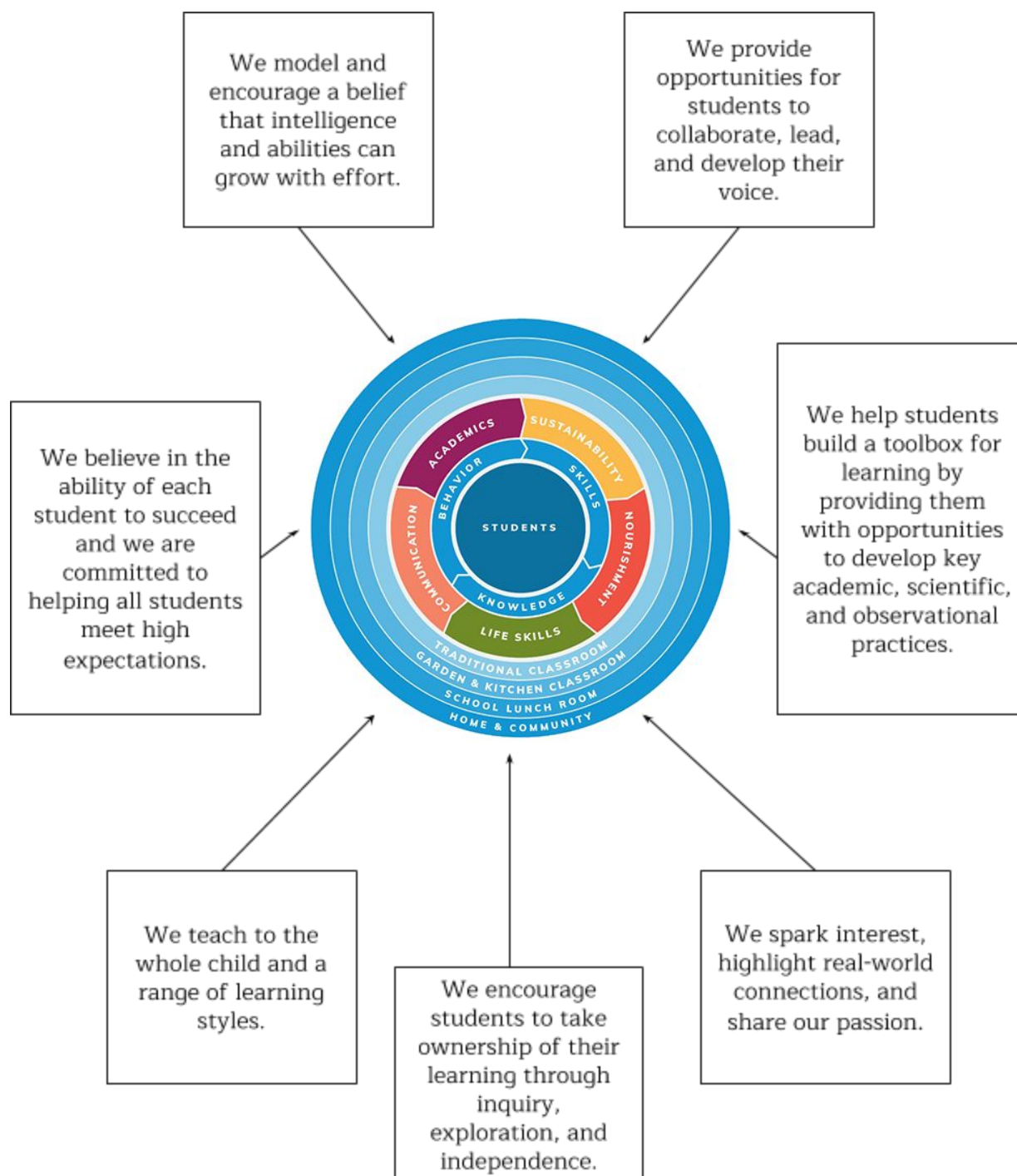
After we break out into groups and leave the Ramada one of the first things we do with our group is a 'Small Circle Check-in'. It's here that we have each student answer a "check-in" question which are provocative, fun and may not have anything to do with gardening. These questions can also relate to 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.

- Present the cards and 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 during garden class today.
- 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 to 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.



Practices for Engaging Students in Edible Education





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!



QUESTIONS AND THE 5 E's: Engage, Explore, Explain, Elaborate, Evaluate

Consider the possible purposes for asking questions during different phases of learning.

Engage phase: Use questions to help generate interest, help students become curious and focus on observation and details in nature, and help students connect past experiences to new observations and topics.

- Have you ever seen...?
- What did you observe?
- Did you notice...?

Explore phase: Use questions to encourage students to explore new organisms, environments, processes, and events in nature—guide students to engage in productive investigations.

- What happened when...?
- What did you discover?
- What do you think will happen if...?
- What questions do you have about...?
- What could we do to find out?

Explain phase: Use questions to help students synthesize new understandings and make sense of investigations—help students classify, categorize, quantify or order their observations—help students use evidence from investigations to make explanations—help students draw conclusions, and make connections.

- What did you notice? What questions do you have? What are some possible explanations for that?
- What did you find out about...?
- How is this the same or different from...? Can you compare this to something else?
- What do you think is the explanation for...?
- Can you explain what makes you think that? What is your evidence?
- What might another explanation be?

Elaborate phase: Use broad questions to encourage reasoning and analysis—involve students in authentic problem-solving situations and critical thinking—help students to generalize their knowledge and test their hypotheses.

- What do you now know about the characteristics of...?
- What other factors do you think might be involved?
- Can you find a way to...?
- What does it remind you of?
- How can we use what we found out to solve a problem?
- How could you be more sure about...?

Evaluate phase: Use questions to encourage students to think back on what they have done and how they have made sense of what they have explored.

- What surprised you?
- How did you arrive at your solution or conclusion?
- Did you change any of your initial thinking?
- What caused you to see things differently?
- How did you figure out...?





Methods of Integrating Science Lessons into a Typical Edible Schoolyard Garden Class

Summary

When developing science lessons for the garden setting, we rely on four primary methods of integrating content into a typical garden class: opening circle demonstrations, rotating labs, small working groups, and hands-on experiences that take the entire class period.

Opening Circle

Content is delivered during the opening circle to all students at once to facilitate full class participation and discussion.

- Opening circle activities take place in the Ramada and generally run for 10-15 minutes.
- This method of delivery is most similar to a classroom setting and relies on classroom management techniques.

Rotating Lab

Content is delivered during a rotating lab in the garden to facilitate small group engagement.

- Students are broken up into three working groups.
- Students take a break from their working groups to rotate through the station or lab.
- The lab is facilitated by a garden teacher and typically runs 15-17 minutes.

Working Group Time

Content is delivered during working group in place of garden work.

- Garden teachers write the lesson as one of the four jobs on the job board, repeating this each week until every student has participated.
- Students self select into the lesson group knowing they have flexibility on choosing when they complete the lesson ("If not this week, then next week."). Teachers can track this as well.

Entire Class Period

Content is delivered throughout the class period using a three-station format where students are introduced to the activity in opening circle and then spend the rest of class time rotating through three different stations relating to the subject matter.

- Students are not doing garden work during this activity. The entire class period is spent rotating through the three stations (15-17 minutes each) doing hands-on activities.
- Students meet back at the Ramada for a closing circle reflection.



Lenses to Consider When Developing Science Curriculum

When developing new science lessons, we consider the following lenses: the Edible Schoolyard's "Edible Education Framework," Next Generation Science Standards (NGSS), the "Learning Cycle," and grade-level scope and sequences. You will find additional information on the Edible Education Framework, NGSS, and the Learning Cycle in the "Edible Education in the Garden" section of your binder. You can find the grade-level scope and sequences in this section of your binder.



Steps to Creating A History Walk

Linking Food, Culture and the Environment

Summary

The goal of this document is to inspire you in the many ways you can use an outdoor classroom to teach virtually any discipline.

Identify the objective, time period, and civilization for your history walk.

Collaboration with the classroom teacher is an effective way to ensure the relevance of your history walk.

- What are the history content standards at different grades?
- Where in the curriculum do teachers at your site want support?
- Where in the grade level scope and sequence does your history walk best fit (before, during, or after they have studied the content in the classroom)?

Brainstorm ideas for the station rotations.

The use of stations has proven to be an effective way of creating a rich experience for student learning.

- How many stations will you have? Who will cover each station?
- In what hands-on activities can students participate?
- What resources are in your garden and community that could connect to the history walk?

Connect to classroom learning.

Assessing students' existing knowledge prior to the activity allows you to tailor your delivery to each group.

- What information would you like students to have before coming to the garden?
- How can you build upon the students' prior knowledge of the topic?
- How does participation in the history walk help students demonstrate mastery of grade-level history standards?
- What follow-up activities can teachers do in the classroom to enhance the experience in the garden?

Gather and organize the materials – including visual aids – needed for each station.

Creating kits for each station has offered some organization and efficiency to what can be a complex set-up process.

Pilot your history walk with enthusiasm and remain open to changes as you deliver an engaging experience to your students. Have fun!



The Industrial Revolution

Summary

In this 8th grade humanities lesson, students rotate through three station activities designed to facilitate a discussion about the intersection between food, labor and technology. Evolution of Corn, Call and Response and The Industrial Revolution.

Objective

After this lesson, students will have been introduced to and discussed:

- The innate human skills of observation, curiosity and experimentation
- The idea that increased productivity and profit from the advancement of technology is not shared equally across the population
- The uses of call and response as a form of communication

Assessment

During this lesson, students will:

- Discuss how native peoples of the Americas accomplished the most important plant breeding achievement of all time
- Discuss pro and cons of the industrial revolution
- Perform music using call and response
- Share out one example of how the food/labor system has evolved over time.

Materials

For the Industrial Revolution Station

- Visual aid cards (depicting the evolution of agricultural equipment harvesting grain)
- Various grain grinding tools ranging from the primitive to the more advanced (mortar and pestle - bench mounted crank driven grain grinder)
- Grain for grinding

For the Evolution of Corn Station

- Corn evolution and corn visual aid cards
- Table with oilcloth and umbrella
- Metate and mano
- Hominy corn soaking in a lime or ash solution to grind
- Masa covered with plastic wrap (to keep moist) and small ice cream scoop to portion out (three cups per class)
- Butter (for tortillas not comal) and brush, ½ stick per class
- Comal and stove



- Metal spatula
- Comal cloth for wiping down comal between groups
- Bucket with soapy water and towels (for hand washing)

For the Call and Response Station

- 1 Basic Beat Percussion Kit (Basket for carrying)
- 1 Bluetooth Speaker
- 1 ipod with “Yaya O” by Voices of Africa (found on Youtube)
- 1 Djembe Drum (The Drum is a personal one from staff)
- 2 metal buckets with 2 axe handles (for mashing) and some chicken feed corn
- Whiteboard easel (with “Yaya O” lyrics)
- Foam pads for sitting
- 3 benches arranged in a shape of a horseshoe
- 1 stool for instructor

Before you Begin

Create the Industrial Revolution Station

- Create the visual aid cards
- Set up various grain grinding tools ranging from the primitive to the more advanced (mortar and pestle - bench mounted crank driven grain grinder)
- Procure grain for grinding

Create the Evolution of Corn Station

- Create the visual aid card
- Collect all the materials for making tortillas: prepare masa before class
- Create the tortilla station by:
 - * Set up the comal with charcoal fire; prepare charcoal 1 hour before use
 - * Set the table with oil-cloth, metate and mano(for grinding corn), bowl with soaking corn(for grinding and demonstrating the Nixtamalization process) and bowl with covered masa.

Create the Call and Response Station

- Collect all materials for music station
- Create the Call and Response station by arranging the dry erase board and organization of the musical instruments



Procedures

At the Opening Circle

1. Welcome students and introduce the day's activity by explaining they will be rotating through three stations in the garden, each designed to help facilitate a conversation about the intersection of food, labor and technology.
2. Introduce the three stations and describe briefly what will happen in each one.
 - a. Industrial Revolution Station: students will learn about the evolution of agricultural machinery and infer on how that impacted the lives of people growing food (keep in mind, at this time in history this was the majority of the population). Students will discuss how the increased productivity and profit (enabled by the advancement of technology) was shared among the population...or not. Who benefited most?
 - b. Evolution of Corn Station: students will learn about how Native peoples used innate human skills to achieve the most important plant breeding achievement of all time. We will also make hand made tortillas with fresh masa and cook them over a hot comal and eat them with butter. MMM...Butter.
 - c. Call and Response Music Station: students will learn how people from the ivory coast of Africa used "call and response", as a way to communicate and how it went on to influence music of today.
3. Explain that when the students come back to the Ramada for closing circle, they will be asked to reflect and share out thoughts on how the food/ labor system has evolved over time.
4. Divide the students into three groups and send one to each station. Remind them that at the sound of the bell they will rotate to the next station.

The Industrial Revolution Station

1. Introduce that in this station students will learn about the evolution of agricultural equipment and how it affected the lives of people growing food. The Industrial Revolution was the period in the United States' history, where industry and agriculture shifted from simple hand production tools to new inventions and more sophisticated machines to perform work in manufacturing and agricultural economies.
2. Show students the three images clearly showing the advancement of agricultural technology and ask students; 'What do think life was like



- for the two people cutting the grain by hand?' (Do you think they had plenty of time to enjoy life? Why or why not?). Repeat this line of questioning for each image. Take a few responses and help the group come the understanding that the images clearly show an increase in production and, if increased production equals increased profits, who benefited most from these increased profits. Did the workers benefit? How? Did the landowners benefit? How? Was the increased wealth of The Industrial Revolution shared equally throughout the population?
3. What are the pros and cons of the Industrial Revolution? (Pros: The standard of living got better for the masses, with the improvements of social systems like transportation, communication and financial institutions. Consequently, the average income increased for citizens, and more time was available to spend leisurely to pursue education, culture and recreation. A larger middle class was born. Cons: More labor (slaves) was need to provide the raw materials (cotton) to meet the demands of the factories. The beginning of large scale pollution, contributing to the climate change of today. The exploitation of workers in the factory setting, long hours, child labor.)

Evolution of Corn Station

1. Welcome students to the corn station. Explain that at this station we will have a short discussion about the evolution of corn and the human ingenuity that made it possible and then we will make, cook and eat handmade tortillas.
2. To start the discussion have the students look at the visual aid (depicting three evolutionary stages of corn over the centuries, starting with Teosinte and ending with corn as we know it today) and ask if there is someone who is willing to tell the evolutionary tale of the corn in the image. Give some clues if needed (the smallest one is called Teosinte, or that the process took thousands of years and it's not over yet). Ask students to build on each others stories.
3. Have someone read out loud the 'Evolution of Corn' text and ask students to compare and contrast it to their version of the story.
4. Ask "How is it possible that people without any of the modern day technologies: laboratories, microscopes, computers etc. (things we associate with scientific advancement) were able to 'achieve the most important plant breeding achievement of all time.'" Goal of this conversation is to realize that humans have innate scientific skills that we are all born with: the power of observation, the willingness to experiment (trial and error) and curiosity (the willingness to ask questions). These skills or practices are the very foundation of science and each one of us possess them. We are born scientists.



5. Introduce the activity of making tortillas by hand. Ask if anyone has made a tortilla with their hands before? Pass out small portions of masa to students. Ask students who have made tortillas by hand before if they will show their classmates how to make a tortilla by hand, or show them how to slap the masa between the hands and rotate it to get the round shape. Cook tortillas on the comal.

While tortillas cook on comal, chose one of the below follow-up subjects.

- Ask students if they have eaten corn today? Have them each share something they ate today, or for breakfast to see if it has any corn products in it,
 - What happened to corn in US History?
 - Why is it that corn is in so many of our food products?
 - Why do we feed it to our animals?
 - Why is corn so cheap?
 - What are government subsidies?
6. Ponder these questions while eating a tortilla with butter on it.

Call and Response Station

Materials

- 1 Basic Beat Percussion Kit (Basket for carrying)
 - 1 Bluetooth Speaker
 - 1 ipod with “Yaya O” by Voices of Africa (found on Youtube)
 - 1 Djembe Drum (The Drum is a personal one from staff)
 - 2 metal buckets with 2 axe handles (for mashing) and some chicken feed corn
 - Whiteboard easel (with “Yaya O” lyrics)
 - Foam pads for sitting
 - 3 benches arranged in a shape of a horseshoe
 - 1 stool for instructor
1. Welcome students and tell them that in this station they will have the opportunity to learn about Call and Response and will later use this to perform and play music together. Start off by giving a few short examples of Call and Response, allowing for time to explain the origin and context for each example.
 - “ When I say King, You say Cobras. King! Cobras! King! Cobras”!
 - “ Everybody Say Warriors!...Warriors” !
 - “What do we want? Education! When do we want it? Now”!
 2. Using a “think pair share”, have students define call and response, explain the two different roles and share why they think people use



- it. Allow a minute for students to talk it over and ask for volunteers to share out. Call and Response is a type of musical pattern in which a caller sings or plays a musical phrase to a group of people, who respond with either that same musical phrase or a new phrase. Some of the reasons Call and Response is used widely, is to engage people, bring focus or attention, helps create a unifying voice, and ultimately is a form of communication found in popular music and culture.
3. Tell students that today they will be learning a traditional West African Call and Response song called “Yaya O” and that they will be using their voice, hands, and small percussion instruments to create musical patterns.
 4. Play the “Yaya O” clip (2:55-3:18) with students reading the song lyrics and listening to the different call and response parts. Ask students what types of things they heard in the song. Be sure to identify the Call and Response pattern, musical instruments heard and the clapping of the audience. Make note that even when you don’t have instruments, you can create rhythm with your hands and feet.
 5. Bring forward the two metal buckets and axe handles. Explain that part of the reason we’re here to learn about Call and Response, is to set the context for how the West Africans were brought to the United States (against their will). They did not have the luxury of bringing any possessions with them, including musical instruments. When they were forced to work in the plantations, they were given tools to work with, and they used these tools, along with their own body parts to create rhythm, song and dance. Explain that by taking the axe handle, you can lightly bang it in the metal bucket and create a beat. At the same time, one is grinding the corn and performing work.
 6. Bring forward all the musical instruments, give students the opportunity to choose one. Tell students that we will most likely have two rounds of “Yaya O”, and so we can switch instruments around, if you didn’t get their first choice.
 7. Remind students that we are here to have fun and in this community we practice a level a maturity and respect. Explain to students that they will now practice singing “Yaya O”, using Call and Response. Invite them to join in the beat with their instruments when they’re ready. As everyone begins to join the music explain that performing music with others can be very powerful. Along those lines, explain that performing music can be very healing. Encourage students to think about what kind of healing they would like to bring into the circle, keeping in mind, that we can all use some healing, personally or outwardly. After the first round, explain these two important points about the West Africans.



- West African slaves were brought to plantations in the south beginning in the late 1600's as a result of a high demand of workers needed for cotton and tobacco production.
 - The music that the West Africans used, fell into two categories; religious spirituals and field work songs. Both types of music incorporated call and response.
8. Gear up for the second round of "Yaya O", asking students if they would like to switch instruments and/or be the "Caller".
 9. Ask students how it felt to sing "Yaya O", while creating rhythm with instruments. Have students brainstorm different ways playing music and using Call and Response may have helped the West Africans. Ask students if they think all the West Africans spoke the same language (they did not). Explain that the West Africans used music to reconnect with their homeland and eventually used music to communicate secretly to tell stories and relay plans for escaping. Many people believe that music is the universal language, and that music has the capability to transcend borders, cultures and religions. If time allows, have students share ways that Call and Response and music still affect our lives today.

Closing Circle

1. Remind students of the closing circle activity: Share out one question/curiosity/wonderment about the advancement of technology and how it has affected our food/labor system.
2. Offer students a think-pair-share of one minute before sharing out to the whole group.
3. Explain to students that formulating inquisitive questions is part of learning and that these questions are not meant to be answered right away.
4. If time permits, open the floor to students that think they can offer an answer to a fellow classmate.

Vocabulary

- Industrial Revolution
- Scythe
- Nixtamalization
- Plant Breeding



Connections to Standards

California State, History and Social Science, Grade 8

8.12 Students analyze the transformation of the American economy and the challenging social and political conditions in the United States in response to the Industrial Revolution.

Contributors

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

Resources

Growth of U.S. Industry Visual Aid Cards

Evolution of Corn Visual Aid Card

Dry Erase Board with Call and Response Music Lyrics



Ancient Technologies Walk

Summary

In this 6th grade humanities lesson, students learn about ancient technologies from around the world by rotating through three stations in the garden: grain grinding, roller sledge and irrigation.

Objective

After this lesson, students will be able to:

- Relate the ancient technologies in this lesson to modern technologies.

Assessment

During this lesson, students will:

- Give an example of a modern day technology that originated from one of the ancient technologies.

Materials

For the Roller Sledge Station

- Roller sledge visual aid cards
- Wooden palette
- 8 wooden poles (8' long 2" diameter)
- Nylon rope (15' long)
- Gardening gloves

For the Grain Grinding Station

- Grain Grinding cards
- Mortar and pestle
- Wheat stalks
- Bags for threshing
- Raw wheat berries
- Cooked wheat berries for tasting and serving spoon
- Grain grinding bicycle (optional)

For the Irrigation Station

- Trowels
- Elevated sand box at a slight slant
- Hose & Elbow irrigation fitting
- Globe
- Wooden blocks
- Spade Hoe & Rake (For resetting the table)
- Large Bucket (For capturing released water)



Before you Begin

Create the Roller Sledge Station

- Prepare the Roller Sledge visual aid cards
- Collect all the materials
- Tie the rope to the palette securely at two corners so that there is a loop about 4-6 feet long for students to pull the sledge.

Create the Grain Grinding Station

- Prepare the Grain Grinding cards
- Cook wheat berries for tasting
- Collect all the materials and arrange them on a table

Create the Irrigation Station

- Collect all the materials
- Make an elevated sand box at a slight slant
- Connect the hose to the sand box

Procedures

At the Opening Circle (Use the word **comparable** in a sentence. “What ancient technologies are comparable to modern day technologies?”)

1. Welcome students and introduce the ancient technologies walk. Tell students that they will rotate through three stations to learn about different types of ancient technologies from all over the world.
2. Invite students to share the ancient civilizations they have already learned about in their classroom.
3. Introduce the three stations and describe briefly what will happen in each one.
 - a. Roller Sledge Station: students will demonstrate using an ancient tool that makes work more efficient.
 - b. Grain Grinding Station: students will thresh, winnow, and grind wheat or barley.
 - c. Irrigation Station: Students will explore the technologies of dams, levees, canals and reservoirs using an elevated sand tray with a river running through it.
4. Ask students to think about modern day technologies that may have derived from the ancient technologies they will learn about in the walk.
5. Divide students into three groups and rotate the groups through each station.



At the Roller Sledge Station

1. Ask students when the Egyptians built the pyramids and prompt them to think about how we know information about civilizations that lived 4 to 5 thousand years ago.
2. Show students the cards of workers building the pyramids using the roller sledge technique and invite them to share their observations.
3. Share the facts aloud that are on the back of the visual aid card:
 - a. The Great Pyramid is outside of Cairo
 - b. It was built with 2.3 million stones
 - c. The average stone weighed 2.5 tons or the equivalent of an SUV
 - d. Some stones weighed as much as 16 tons or the equivalent of two full grown elephants
 - e. The great pyramid is 1 ½ football fields tall and 2 ½ football fields wide
 - f. It took 10-20 years to build under the Khufu faro
4. Explain that today's challenge is to move very heavy "rocks" from one location to another as a team using the roller sledge.
5. Assign students roles: pullers, wooden pole movers, and rocks (a non-speaking part).
6. Demonstrate how to safely hold the poles and emphasize safety:
 - Rocks should always be in a sitting position with hands and feet away from the edge
 - Polers should always wait until the pole is completely released before reaching for it.
7. Ask the students to put on gloves and set up the roller sledge by placing half the poles parallel on the ground, roughly 2 feet apart, and placing the pallet on top.
8. Ask the rocks to get on board and tell the pullers to pull slow and steady, making sure to give the pole movers enough time to move each pole from the back to the front as the pallet moves forward. Pole movers will have the remaining poles in hand at the ready.
9. Once they have completed a successful test run, ask students if they're up for the challenge of putting more weight on the pallet and going up hill. When they accept the challenge, take all supplies to the bottom of the hill and begin the process again. Give students the option of switching roles at this time. Remind students that they are moving hundreds of pounds of weight up hill without motors or wheels!
10. Increase the challenge if time permits (up a steeper hill, a longer distance, more weight, fewer pullers).
11. When it is time to rotate, send students to the Compass Scavenger Hunt Station.

At the Irrigation Station

1. Using a globe, ask students to find modern day Mesopotamia and to describe the



climate and landscape of the region.

2. Prompt students to think about the challenges of living where there are periods of drought and periods of flooding.
3. Define reservoir, levee, dam and canal.
4. Compare the landscape in the elevated sand box to Mesopotamia.
5. Give each student a plot to irrigate in the sandbox. Explain that each student is responsible for creating a system of irrigation that will move water from the main river to their plot using reservoirs, canals, dams and levees.
6. Tell students they need to allow water to flow to communities downstream.
7. Give each student one trowel and one wooden block.
8. Ask them to imagine that they are ancient Sumerians. Recreate a flood scenario with story-telling and water flowing through the hose into the sandbox.
9. Give the students an opportunity to assess their irrigation system, make improvements and try again. Then ask students to discuss the improvements they made.

At the Grain Grinding Station

1. Ask students what a staple crop is, and ask them to give examples from around the world.
2. Explain that wheat was one of the staple crops in Ancient Egypt.
3. Show students the card with an image of a harvester, and ask them to describe what they see. Recall the Harvest, Thresh, and Winnow lesson from the Fall and explain that in the image the person is harvesting and threshing grain.
4. Hold up an example of a wheat stalk and ask if students know how wheat turns in to bread.
5. Tell students that in this station they will process grains in 3 different ways.
6. Show students the card with an image of someone using the mortar and pestle, and ask them to describe what they see. Explain that the person in the image is grinding grain.
7. Explain that today students will be using the mortar and pestle to grind wheat berries into flour.
8. Invite students to taste the cooked wheat berries.
9. Briefly demonstrate using the mortar and pestle , reminding them to be gentle.
10. Briefly demonstrate using the bag method to thresh, and how to use your breath to winnow.
11. Explain that you will be pulling students two at a time to ride the grain-grinding bicycle.
12. Divide students in to three groups and have them rotate through all three substations of the Grain Grinding Station.
13. When it is time to rotate, send students to the Roller Sledge Station.



At the Closing Circle

Think-Pair-Share

1. Lead students in a reflection of the technologies from the history walk by asking a student to read out loud the closing circle question. “How do these technologies show up in our modern day world?”
2. Invite students to participate in a Think-Pair-Share and turn to a neighbor to discuss and imagine how what they’ve just experienced shows up in our modern world.
3. Invite students to share out what they said or what their partner said.

Vocabulary

Thresh

Winnow

Chaff

Staple crop

Roller-sledge

Irrigation

Reservoir

Levee

Dam

Canal

Connections to Standards

California State, History and Social Science, Grade 6

6.2 Students analyze the geographic, political, economic, religious, and social structures of the early civilizations of Mesopotamia, Egypt and Kush.

6.2.1 Locate and describe the major river systems and discuss the physical settings that supported permanent settlement and early civilization

6.2.2 Trace the development of agricultural techniques that permitted the production of economic surplus and the emergence of cities as centers of culture and power.

6.2.5 Discuss the main features of Egyptian art and architecture.

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.



Bees

Summary

In this lesson, students study bees in the garden and the important role of pollinators while rotating through three stations: Beehive; Catch, Observe, and Release; Honey Tasting.

Objective

Students will be able to:

- Feel comfortable around bees in the garden setting
- Explain the benefits of having a hive in the garden.

Assessments

Students will:

- Safely catch, observe, and release honeybees and native bees.
- Discuss pollination, honey, and education as the benefits to having a hive in the garden.

Materials

Hive Station

- Visual aid card: life cycle of the bee
- Beehive
- Plexiglas box for observation, cloth to cover box and tape to stabilize and keep box closed.
- Table for observation with umbrella
- Pollen
- Smoker, matches and cotton balls
- Bee hat

Catch, Observe, and Release Station

- Insect nets
- Large Jars for observing
- Visual aid cards

Tasting Station

- Honeycomb
- 2 contrasting jars of honey for tasting (light and dark)
- Wooden stir sticks for tasting
- Bowl of sunflower seeds and serving spoon
- Fun fact cards



Before You Begin

- Find areas in the garden where students will be able to observe bees
- If you have a hive, check the health of the hive and pull out a single comb and place in plexiglass box then set it up on table at the hive station for observation by students
- Set-up stations for catch and release, tasting and hive

Procedures

Opening Circle

1. Introduce the lesson and tell students that today they will learn all about bees.
2. Invite students to share something they already know or think they know about bees by participating in Think-Pair-Share.
3. Ask several students to share out to the whole group.
4. Explain that Bees have three major interests:
 - a. Pollen, nectar, reproduction
 - b. Note that bees are not out to sting people
5. Clarify when and why bees sting and review the warning signs before they sting:
 - a. Fly away
 - b. Buzz louder
 - c. Emphasize that stinging is the bee's last resort
6. Introduce the three stations and describe briefly what will happen in each one:
 - a. Hive station: students will learn about the colony and observe the bees at work on the honeycomb
 - b. Tasting station: students will taste bee related foods and learn about pollination
 - c. Catch, observe, and release station: students will learn about both honey bees and native bees then go out into the garden to safely catch, observe, and release bees
7. Frame the closing circle question: "Why do we have a beehive in the garden?"

In the Field

Bee Hive Station

1. Explain to students that in this station, they will first learn about the beehive and the role of the beekeeper. Then, they will safely observe a honeycomb from the hive up close.
 - a. Ask students what type of behavior is best to have when approaching the hive. (Calm, relaxed, quiet)
2. Point out the flight path to students drawing the analogy of a busy doorway and explain the importance of keeping the flight path clear.



3. Explain that this is a top bar hive, the technique originated in Kenya and it mimics the way bees build their hives in nature. Compare it briefly to the Langstroth method of beekeeping, largely used by commercial beekeepers. Explain the different combs in each(one uses a foundation and the other starts with just the top bar)
 4. Now that students know how to safely be around the hive, explain to students that the beekeeper has two main priorities:
 - a. Maintain the health of the hive by checking for parasites and intruders (other insects)
 - b. Monitor the growth of the hive by checking in on the amount of eggs that the queen is laying
 5. Explain that when entering the hive, two factors are crucial: protection and distraction.
 - a. Show students the bee hat and explain how the hat protects the face from any potential bee stings
 - b. Show students the smoker and demonstrate its use while also explaining how the bees become distracted. The smoke gives bees the illusion of a fire. In order to survive the flight away from the hive, bees will begin gorging on honey and are thus distracted from the beekeeper's entrance
 6. Explain that the beekeeper must work fast to avoid heat escaping from the hive. Bees are cold blooded and need the hive to be around 95 degrees Fahrenheit
 7. Show students how the bars line up and explain how the bees build the honeycomb on the bar. Show students a honeycomb and pass it around while encouraging students to smell it.
 8. Open the observation window and explain how bees build the honeycomb starting with the bar closest to the entrance
-
1. Have students move to a separate table removed from the hive, where the observation comb is set up and ready for viewing. Remind students what type of behavior they should produce. (Calm, relaxed, quiet), emphasizing respect and no tapping of the glass window. Give students a chance to quietly hear the hum of the bees before the next step. Let students know that there are two sides of the comb and that they should observe both sides by crouching down to its level. Allow a couple of minutes for students to observe and take note of what they see and produce questions. Once the time is up, ask students to raise their hand and take turns asking questions and making observations. Use the questions and observations to open up the conversation. If time allows, go over any other observations not mentioned or prompted by students.
 2. Explain that there are 3 types of honey bees in the colony The queen can live 3-5 years
 - a. The queen's job is to lays eggs (she can lay up to 2500 a day)
 - b. The male bees are called drones. The drones mate with the queen, typically in flight, and die shortly after. The population of the drones in the hive is low



- compared to worker bees. Drones are kicked out of the hive as winter approaches
- c. Worker Bees, Have the highest population in the hive and perform all of the following jobs: cleaning the hive, feeding the brood, attending the queen, receive nectar and process it into honey, building more wax comb, guard bees, forage for nectar, pollen, and propolis
3. Explain that bees forage by collecting nectar and pollen from many flowers; storing the nectar in their bodies and storing the pollen in their pollen sacs
 4. Give students an opportunity to observe the pollen in the jar and if they want taste a little
 5. Explain that Bees use the comb to store nectar, lay the eggs, feed the larva, and make honey
 - a. Beginning with the area of the comb closest to the bar, point out the following:
 - b. Capped honey storage. Bees can access the honey by poking a hole
 - c. Bee nursery: brood cells for the queen to lay eggs
 - d. Cells with nectar in them
 - e. Larva and drones
 6. Bees transform the nectar into honey by regurgitating the stored nectar and fanning it with their wings
 7. Bees also collect propolis: sap from the trees that they combine with wax to seal the hive from intruders
 8. Show students bee pollen and point out the different colors of the pollen
 - a. Explain to students that different flowers have different colored pollen and nectar, which affects the color of the honey
 9. Explain to students how the queen bee is replaced in the hive.
 - a. The queen bee can die while mating
 - b. When the queen is injured or old, the bees in the hive will pick 5-7 larvae to feed royal jelly in order to create the new queen bee
 - c. Multiple hatched larvae can compete to be the next queen
 10. Explain to students that bees communicate within the hive by doing the bee dance.
 - a. Dance in figure 8 loops
 - b. Bees can communicate the direction of the nectar source through a defined angle from their abdomen to the sun
 - c. Bees can communicate the distance of the nectar source through the length of the dance

Honey Tasting Station

1. Explain to students that in this station students will taste foods related to bees.
2. Ask students what their favorite fruit is and explain that without pollinators, those fruits would not exist.
3. Explain that the bee is an incredibly efficient pollinator but not the only pollinator



in the environment. Ask students for examples of different pollinators. Briefly explain pollination and define pollen as the genetic material from the male organ of the flower. Reference the three main interests of honey bees from opening circle (nectar, pollen and reproduction)

4. Taste sunflower seeds and explain that honeybees are the primary pollinators for sunflower seed production.
5. While students are enjoying the sunflower seeds, pass out honey fun fact cards and have students read aloud:
 - a. An average worker bee makes 1/12 tsp of honey in her lifetime
 - b. To make a 16oz. jar of honey, honeybees have to travel 112,000 miles and visit 4.5 million flowers
 - c. Honey is antibacterial and contains 80% sugar
 - d. Raw honey also boosts the immune system and soothes burns
6. Ask students if they know what honey is made of and how and why bees make it
 - a. Explain that worker bees collect nectar, (sugar water or 'glucose', Have students recall that photosynthesis is the process by which all plants make sugar) stores it in their bodies, and carry it back to the hive where they then regurgitate it
 - b. The nectar in the hive becomes concentrated through a process of evaporation and transforms into honey
7. Pass out honeycomb tasting to each student.
8. Show students the two different types of honey and ask why they might look and taste different.
 - a. Explain to students that different flowers have different colored pollen and nectar, which affects the color and taste of the honey
 - b. Explain how honey can be flower specific

Catch and Release Station

1. Explain to students that in this station they will learn about honey bees and native bees then safely catch, observe, and release bees in the garden.
2. Review the three main interests of bees: nectar, pollen, and reproduction.
3. Explain that only a female bee can sting. The bee's stinger is in its oviduct, from which eggs are released. Male bees do not have stingers.
4. Delineate the difference between native bees and honeybees. Different colony sizes, body types, Bees native to the bay area are actually solitary; whereas honeybees are social. Also observe the bee's fuzzy bellies and legs that are ideal for collecting pollen.
 - a. Does the bee have pollen sacs?
 - b. Show images of honey bees and native bees
 - c. There are 85 species of bees in Berkeley, 1,600 in California, and between 20,000 and 40,000 in the world



5. Demonstrate how to catch and release bees while noting the following:
6. Bees can see the colors purple and blue best so when looking for bees try plants with purple and blue flowers
7. Explain that bees do not fly downward very well
8. After catching the bee look to see whether it is a native bee or honeybee and whether the bee is female or male
9. Explain to students that Bees have been around for 130 million years and have co-evolved with flowers

Closing circle

- Have students answer the question, “Why do we have a beehive in the garden?” by participating in a Think- Pair- Share activity. When students are done with their discussion allow for several students to share out to the whole group.
- Answers include but are not limited to; So we can have honey. To have more pollinators ie; more fruit. An educational tool to teach people about bees.

Vocabulary

Honeycomb

Pollen

Nectar

Drone

Queen Bee

Larva

Native Bee

Honey Bee

Teaching notes

- This lesson came about by seeing the need for people to feel comfortable in the garden setting. Students would often feel scared and ‘freak out’ when they saw a bee. Through the power of educating ourselves, we believe that we can often overcome our fears about insects and learn to coexist creating a more comfortable experience in the garden.

Connections to Standards

Edible Schoolyard 3.0 In the Garden Classroom, Grade 6

Concepts 3.9 Observe the garden as 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.

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.



Flower Discovery

Summary

In this 6th grade science lesson, students explore and study flowers like scientist do, learn about and practice scientific drawing, label the structures and how they function, and discuss their findings, questions and ideas.

Objectives

After this lesson, students will be able to:

- **Name some of the structures of a flower**
- Draw what they see
- Make an inference of the **function of flower structures**

Assessments

During this lesson, students will:

- Describe and name some flower structures
- Explore the flowers in the garden during a Flower Hunt, create a scientific drawing, and label the parts of a flower using a key to help them.

Materials

- Visual Aid of the Cross Cutting Concept: Structure and Functions with definition
- Hand Lenses
- Pencils
- Clipboards
- Blank paper
- Biology of a Flower key
- Fresh flowers growing in the garden for drawing
- Student cross-pollinating questions copy for each garden teacher
- Small circle check-in Pair-n-share questions copy for each garden teacher

Before You Begin

- Copy the Flower Discovery key to put with clipboard and blank paper
- Sharpen pencils
- Ensure there are enough flowering plants in the garden

Procedures

At the Opening Circle

1. Welcome students and introduce this Flower Discovery lesson as an opportunity for them to learn how flowering plants reproduce by studying real flowers.
2. We will be doing a guided exploration of flowers in the garden primarily looking at their structures and functions. Does anyone know what structure and function



means? Have students share responses and then read out the definition.

3. Divide students into groups.

In the Field

1. Get students excited about exploring by telling them there's cool stuff all around us!
2. Explain that their focus of study will be flowers in the garden.
 - *We're going to explore and study flowers kind of like scientists do.*
 - *Ask a student to read out loud the structure and function definition.*
 - *Practice the definition using a think-pair-share activity asking students to come up an example of a structure and its function with their neighbor (this will their partner in the activity). Share out examples.*
 - *Introduce sketching & recording information as a scientific tool. Explain that looking at structures and how they function is something scientists do.*
 - *Introduce techniques that are used in scientific illustrations; draw what you see, detail, labeling, questions, multiple angles.*
 - *It's not about making a pretty picture. It's about noticing things accurately and writing them down.*
 - *Sometimes a drawing will help show what you noticed, sometimes words will communicate it better. Use both in your study.*
3. Tell pairs they are going to go on a Flower Hunt to explore & find as many types of flowers as they can. Explain safety for the flowers, & boundaries. Give out hand lenses.
 - *In pairs, you'll have 5 minutes to explore this area and observe as many flowers as you can. We will not be harvesting the flowers, but rather focus on their structures.*
 - *Your goal during exploration time is to be gentle with these plants and to find as many different kinds as possible, so you can choose a favorite.*
 - *You can grab a clipboard, pencil and blank paper either now or in 5 minutes, after your exploration. You will choose your favorite flower and make a scientific drawing of your flower, recording as many observations and questions as you can, like a scientist would.*
4. Facilitate student exploration; circulate & troubleshoot. After 5 minutes, inform students its time to choose their flowers and begin drawing. Each pair chooses one flower to focus on.
5. Make sure each student has a clipboard, pencil, and blank paper; each student records observations through writing & drawing. Give them about 15 minutes to draw.
6. Assign each student pair to a different group; one will be "Student A," the other "Student B."
7. Circulate to each pair to explain how this "swap" time will work. The "A" student stays with the flower to share findings, "B" students will circulate among the "A" students, like a pollinator. The "B's" are to visit at least two flowers.
8. Let student/scientist know they'll be discussing their discoveries & questions, not



just lecturing each other on what they found.

- *This should be a discussion, not a one-way lecture.*
- *Using the sentence prompts; I noticed, I wonder and It reminds me of..... "A's" and "B's" will discuss flowers.*

9. Begin "swap" convention with "B" students circulating & instructor participating.
10. After the "B's" have visited two flowers (approx. 10min) ask students to circle up for a share out of their discoveries. Do a Think-Pair-Share of what structures or functions did you notice? Students will be sharing out this information in the closing circle, so give them the opportunity to practice using the sentence structure: "I noticed, I wonder, It reminds me off..."
11. Provide students with a targeted exploration time in which they apply the structure and function lens to the garden scape. Including the chickens! Ask that they be prepared to share their observations in closing circle.

At the Closing Circle

1. Share observations from the day.

Vocabulary

Petal
Pistil
Stamen
Sepal

This has not been updated to reflect this as a 6th Grade lesson

Connections to Standards

California State, Science, Grade 7

7.5.f Students know the structures and processes by which flowering plants generate pollen, ovules, seeds, and fruit.

Edible Schoolyard 3.0 In the Garden Classroom, Grade 7

Concepts 3.7 Use observation and awareness to explore, investigate and be inquisitive learners in the garden. The garden classroom provides the opportunity for students to tap into their inherent curiosity about the natural world, observe patterns and connections and understand cause and effect.

Concepts 3.9: Observe the garden as 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.

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

Flower Discovery Key

Student Cross-Pollinating questions

Small Circle Check-In Pair-N-Share questions



The Edible Schoolyard

Severe Allergic Reaction and Bee Sting Action Plan

If a student is stung by a bee or has an allergic reaction to nuts:

FIRST:

1. If possible, **bring student to the ESY office or move to a quiet place**. A staff member needs to stay with the student until situation is resolved.
2. Determine if the student has a known allergy:
 - a. Look in the ESY bee kit (tool shed or office) to see if the student has a known bee allergy on record.
 - b. Call King office, 510-644-4544, to check if student has any known allergies on record.

SECOND:

1. Determine if allergic reaction is **SEVERE**:
2. Symptoms of a **SEVERE** allergic reaction include:
 - a. **ONE OR MORE** of the following:
 - LUNG: Short of breath, wheeze, repetitive cough
 - HEART: Pale, blue, faint, weak pulse, dizzy, confused
 - THROAT: Tight, hoarse, trouble breathing/swallowing
 - MOUTH: Obstructive swelling (tongue and/or lips)
 - SKIN: Many hives over body
 - b. **OR COMBINATIONS** of symptoms from different body areas:
 - SKIN: Hives, itchy rashes, swelling (e.g., eyes, lips)
 - GUT: Vomiting, cramps, or pain
3. If reaction is **SEVERE**:
 - a. If available, refer to student's individualized allergy action plan.
 - b. **INJECT EPI-PEN**, note time of injection.
 - c. Call 911, tell rescue squad epinephrine was given, request ambulance with epinephrine.
 - d. Call the parents and inform them of the sting and treatment.
 - e. Call the King main office and inform them of the sting and treatment.
 - f. If symptoms persist or recur, a second dose of epinephrine can be given 5 minutes or more after first dose.
 - g. For severe reaction, consider keeping student lying on back with legs raised.
 - h. Stay with student and calmly reassure student until emergency help arrives. Stay with student (at King, in ambulance, at hospital) until a parent arrives.
 - i. Look, listen and feel for breath. If student stops breathing, start CPR.
 - j. **Alert Janet, Vice Principals, and Agatha to the situation by using the walkie-talkie radio in Kyle's office.**



THIRD:

1. Determine if allergic reaction is **MILD**:
 - a. Symptoms of a **MILD** allergic reaction include:
 - MOUTH: Itchy mouth
 - SKIN: A few hives around mouth/face, mild itch
 - GUT: Mild nausea/discomfort
 - EYES: Red, watery eyes
 - NOSE: Itchy, sneezing, runny nose
2. If reaction is **MILD**:
 - a. Stay with student.
 - b. Call parents to inform them of the mild reaction.
 - c. **GIVE ANTIHISTAMINE** if ordered by a physician.
 - d. **Any student who receives treatment should be sent home from school for the rest of the day.**
 - e. **Alert Janet, Vice Principals, and Agatha to the situation by using the walkie-talkie radio in Kyle's office.**

FOURTH:

If there is no treatment warranted, we should **still monitor student for at least 2 hours** as student may experience a delayed allergic reaction for up to 2 hours. Make certain that adults (the classroom teacher or, if the student is going to lunch, the Vice-Principal) supervising student for the next 2 hours are notified that the student has been stung and instruct the adults to watch for delayed symptoms of a severe allergic reaction.

FIFTH:

1. Always follow up the next day with a phone call to the family of affected student or to the adult who was stung.

If an **ADULT** is stung and the reaction is **SEVERE**, follow instructions for **EPI-PEN**. If reaction is not severe, offer options of antihistamine, ice, etc.

IMPORTANT PHONE NUMBERS:

King Main Office: (510) 644-xxxx
ESY Main Office: (510) 558-xxxx
ESY Kitchen Office: (510) 558-xxxx
ESY Garden Cell: (510) 292-xxxx
Javier Mendieta: (510) 644-xxxx
David Gold: (510) 644-xxxx
Leslie Stenger: (510) 644-xxxx
Rikki Moreno: (510) 644-xxxx



Dear Neighbors and King Community,

I am so excited to share with you that the Edible Schoolyard is going to welcome our very first beehive in the garden next week! We have been working with a local beekeeper for almost a year to prepare for this addition to our pollinating friends in the garden and, on Thursday or Friday of next week, he is going to bring the hive to ESY. I hope that you will join us in this exciting opportunity to be on the forefront of edible education!

I am sure you have lots of questions, and I would like to address some of the questions that have come up during the past 9 months of our preparation.

Q: Where will the hive go?

A: The new hive will live on the hillside in between the tool shed and the track. If you haven't been down there in a while, we have begun to expand the garden into this area. With the support of BUSD, we cleared the overgrown hillside and are terracing the hillside and planting apple trees for a hillside orchard.

Q: Won't people mess with it? Will the bees be safe?

A: We are building a fenced in area for the hive so that you cannot see the hive from the track and you cannot just get into the pen to disturb the hive. Signage will encourage people to observe the hive without disturbing the occupants. We have weekly checks on the bee population to ensure the safety and long-term health of our beehive. Our beekeeper has reported consistently over the first year that the hive is thriving and even had to divide it this spring!

Q: Will we have Edible Schoolyard honey?

A: YES! Awesome, right?

Q: Is that safe? It seems scary, what if someone gets stung?

A: This is such an important question and one we have worked hard to answer. Because of the incredible population of bees and pollinators that live here in Berkeley, there is already the possibility that anyone on campus can get stung. Our new hive will not cause a noticeable increase or change in the bee population on campus, as bees travel up to 2 miles to do their work. We have worked with the main office and parents of students with known allergies to have an action plan for those students in the event that he/she is stung by a bee. All ESY staff have had Epi-Pen training and know how to administer the medication if they need to. If a student gets stung and does not have a known allergy, we have an action plan for that, too. All ESY staff are trained on how to identify and treat a mild reaction or anaphylactic



shock and the steps to calmly and effectively triage and treat the sting. There will be a bee-kit in the tool shed and in the ESY office with Epi-Pens, individualized action plans, and the general action plan for treating bee stings, in the event they happen.

Q: Will the students learn about the hive?

A: Yes! This is actually the most important and exciting part! The bees will be integrated into lessons for 6th and 7th graders. 6th graders already do a bee lesson where each student catches a bee and examines it, but now we are going to include the hive in a lesson for 7th grade humanities classes on Meso-America (did you know that the Mayans kept bees and sweetened their cacao with it?). The beekeepers have designed the hive with a flap that can be put up to look at what is going on inside the hive. They will also make presentations in the spring to 6th grade students who will learn about honey and how to harvest it. There are so many fun opportunities for craft projects with beeswax, selling ESY honey at our plant sale, and educating everyone what an important role pollinator's play in our food system!

I will send this information to our parents as well. Please let me know if you have any questions that aren't answered, we want to make sure everyone is ready to welcome the bees!

All best,
Kyle



“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



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

$\frac{1}{4}$ cup vinegar

$\frac{1}{2}$ teaspoon salt

$\frac{1}{4}$ teaspoon pepper

1 small clove garlic - peeled and crushed

$\frac{3}{4}$ 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.



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 and depth delivery, productivity and effectiveness.
3. **WE HAVE FUN!:** We positivity, joy and laughter to our work with each other. We get our jobs done and we do great work, and we have an incredible amount of fun doing it. We also respect the power of the reset button :). [KC5]
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:** Our intention is to respect and to care for each other and our community. We are thoughtful and aware of how we impact others. We seek to avoid pretentiousness, meanness, pettiness and disrespect on our team.
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 create 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 asks 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.)

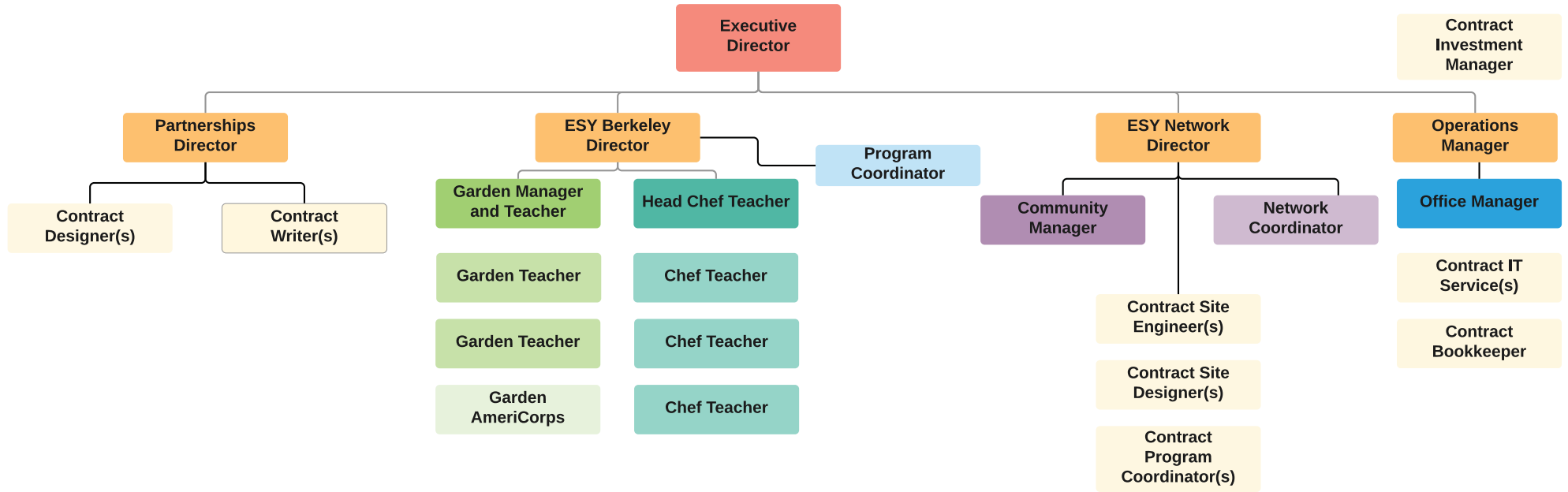
Probing for Specificity

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	<ul style="list-style-type: none">• Teach ESY garden classes• Teach one after school class each Spring• Support HSI	<ul style="list-style-type: none">• Maintain tool shed• Attend to current garden tasks (see back)• Lead weekly weeders	<ul style="list-style-type: none">• Maintain an awareness of and actively participate in ESY events, school events and relevant community events• Participate in ESY staff meetings and professional development	<ul style="list-style-type: none">• Collaborate with garden staff in the development of garden lessons that are integrated with classroom teaching, ESY standards, and academic standards	
Garden Teacher	<ul style="list-style-type: none">• Teach ESY garden classes• Teach one after school class each Fall (rotate)	<ul style="list-style-type: none">• Attend to current garden tasks (see back)		<ul style="list-style-type: none">• Assist with development and documentation of lessons	<ul style="list-style-type: none">• Manage garden volunteers
Garden Manager and Teacher	<ul style="list-style-type: none">• Teach ESY garden classes	<ul style="list-style-type: none">• Oversee all garden production• Maintain facility and equipment• Collaborate with Garden Consultant• Order and organize seeds	<ul style="list-style-type: none">• Oversee Plant Sale• Represent ESY in public, for interviews, and at meetings and conferences	<ul style="list-style-type: none">• Meet with King staff before and after garden rotations• Oversee garden lesson development• Oversee Academy lesson development	<ul style="list-style-type: none">• 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
<ul style="list-style-type: none">• Maintain compost• Maintain tool shed	<ul style="list-style-type: none">• Maintain, clean, and repair bird coop• Feed animals	<ul style="list-style-type: none">• Maintain greenhouse• Research and implement pest management



Kitchen Responsibility Matrix

	Teaching	Kitchen	Communication and Outreach	Lesson Development & Documentation	Leadership and Management
Chef Teacher #1	<ul style="list-style-type: none"> • Teach ESY kitchen classes • Teach one after school class each Fall 	<ul style="list-style-type: none"> • Daily maintenance • Assist with food preparation for special events 	<ul style="list-style-type: none"> • Maintain healthy relationships with ESY & King staff and wider community 	<ul style="list-style-type: none"> • Collaborate on development & documentation of lessons • Video Production • Ensure lesson, recipe, visual aid documentation internally and online 	<ul style="list-style-type: none"> • FNO • Kitchen Volunteers • Summer Camp • Interns (teaching)
Chef Teacher #2	<ul style="list-style-type: none"> • Teach ESY kitchen classes • Teach one after school class each Spring 	<ul style="list-style-type: none"> • Daily maintenance • Assist with food preparation for special events 	<ul style="list-style-type: none"> • Maintain healthy relationships with ESY & King staff and wider community 	<ul style="list-style-type: none"> • Collaborate on development & documentation of lessons • Video Production • Ensure lesson, recipe, visual aid documentation internally and online 	<ul style="list-style-type: none"> • After School Classes • IWES • Oversee bulk purchasing
Head Chef Teacher	<ul style="list-style-type: none"> • Teach ESY kitchen classes 	<ul style="list-style-type: none"> • Oversee and coordinate all facility and equipment maintenance • Coordinate garden plantings with GMT 	<ul style="list-style-type: none"> • Maintain healthy relationships with ESY & King staff and wider community • Represent ESY in public, for interviews, and at meetings and conferences • Oversee special events 	<ul style="list-style-type: none"> • Meet with King staff before and after kitchen rotations • Oversee kitchen lesson development • Oversee Academy lesson development 	<ul style="list-style-type: none"> • Manage kitchen staff and interns • Facilitate weekly kitchen staff meetings • Oversee kitchen budget • Ensure consistent communication with garden
	Teaching			Administrative	
Family Class Coordinator	<ul style="list-style-type: none"> • Design and teach family cooking classes • Develop a robust and multi-faceted outreach strategy • Teach daily kitchen classes for 6th, 7th, and 8th grade 			<ul style="list-style-type: none"> • Work with King teachers and administrative staff to build support for and connections to family cooking classes at the Edible Schoolyard 	



	students	<ul style="list-style-type: none"> Evaluate the relevance and effectiveness of FNO
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Office Responsibility Matrix

	Teaching	Office	Communication and Outreach	Leadership and Management
Program Coordinator	<ul style="list-style-type: none"> Teach one after school class each Fall Substitute for ESY teachers as needed Teach at Academy 	<ul style="list-style-type: none"> Maintain ESY calendar and schedule Organize events Organize staff meetings Manage office supplies, IT, and organization 	<ul style="list-style-type: none"> Communicate with King staff Train and manage volunteers Give public tours Answer public inquiries 	<ul style="list-style-type: none"> Organize annual ESY Plant Sale Hire, train, and supervise office interns

	Staff Management	Program Development and Management	Outreach	Finance
Director	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 ESYB staff
- Lead private tours
- Liaise with ESYB regarding scheduling of special tours for guests of ESYB/Alice Waters
- Liaise with ESYB 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 ESYB staff
- Represent ESYB at conferences and workshops
- Communicate with neighbors and the wider school community regarding any concerns or inquiries about ESYB
- Collaborate with ESYB staff on media interviews and special tours
- Create public relations and outreach materials

Fundraising and Finance

- Collaborate with ESYB on fundraising, including but not limited to grant writing, event planning, and donor cultivation
- Develop and manage ESYB program budget annually and review with ESYB 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 of 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 of 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 apprised 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 ESYF Instagram blog, ESYF 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 ESYF 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

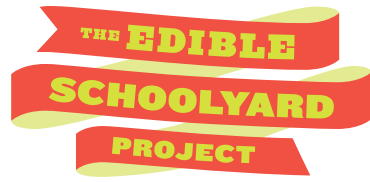
Garden

- 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 varieties, 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 Winnebago land 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 hoop houses (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.

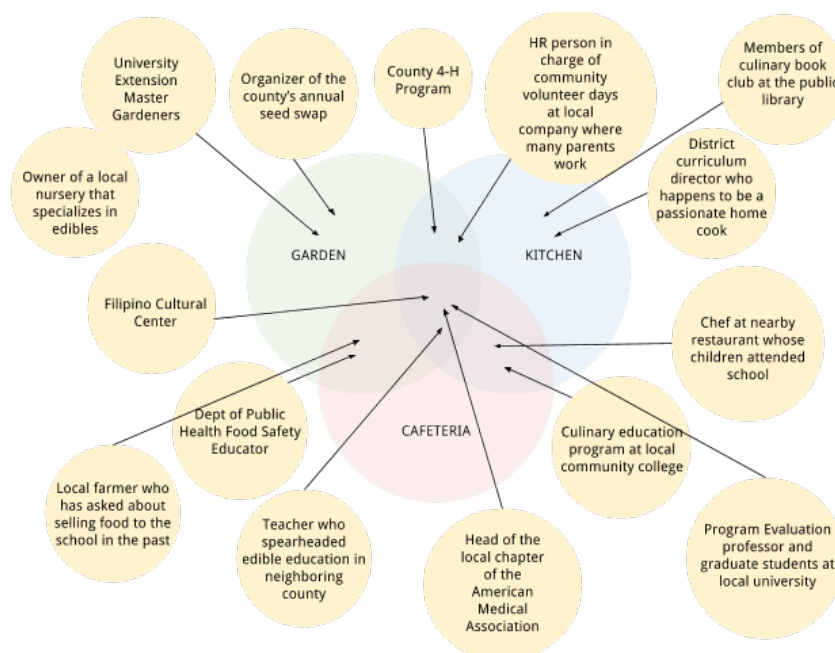
Ways to do it

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.

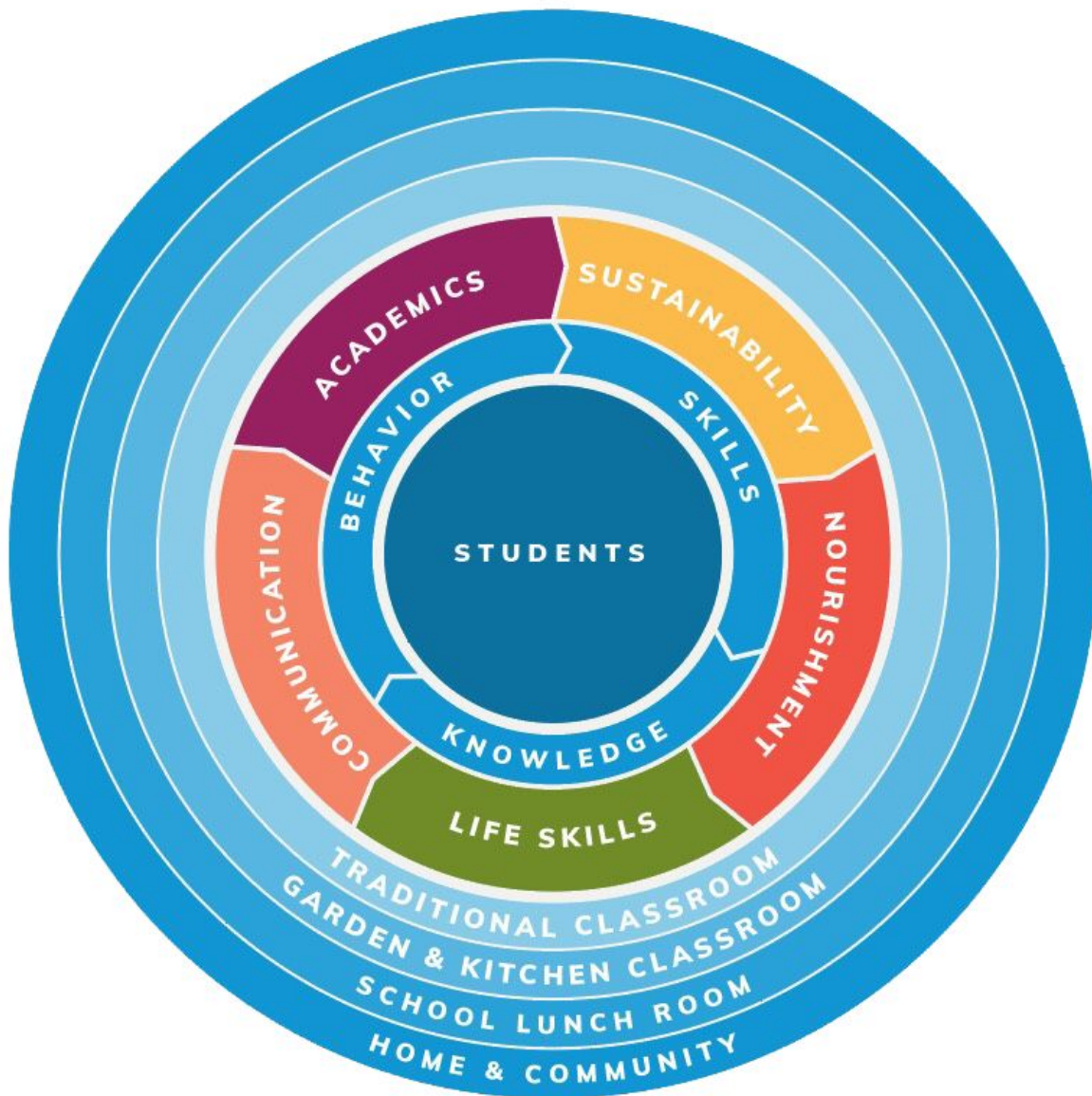
Ways to Do It

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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3. [Dig-It Day at the Gregory Lincoln Education Center](#), (video) Gulf Coast Food Project with Cultivated Classroom, 2016
4. [Edible Education Framework](#), (video) Edible Schoolyard Berkeley, 2016
5. [The Edible Schoolyard Workplace Culture](#), Edible Schoolyard Berkeley, 2016
6. [Farm to School: A Guide for Farm to School Community Action Planning](#), Vermont FEED, 2010
7. [Farm to School Planning Toolkit](#), Vermont FEED
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9. [New Project Process](#), Edible Schoolyard Berkeley, 2016
10. [Participatory Asset Mapping](#), Community Research Lab, 2012
11. [Rethinking School Lunch](#), Center for Ecoliteracy, 2004 - 2010
12. [Sample Planning Matrix for Program Fundraising](#), Edible Schoolyard Project, 2016

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.

This Edible Education Field Report was made possible through the generous support of Sage Garden Project.

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

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.
- 3.

Edible Education Action Planning Template



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



Volunteer Training Internal Agenda - Spring 2017

Dates/Time: Wednesday, 1/18/17 6:30-8:30

Agenda:

Time	Item	Lead
10 minutes	Introduction, Ice Breaker	Jason
10 minutes	History/Organizational Overview	Hana
5 minutes	Change for this year	Jason
15 minutes	Expectation/Handbook/Scheduling	Hana
40 minutes	ESY Culture Principles	Griselda
5 minutes	Volunteer/ESY staff communication	Griselda
5 minutes	Questions/Closing	Hana

Introductions/Ice Breaker: (Jason)

- Introduce self and role at ESY
- New volunteers introduce themselves and say a little about why they want to volunteer at ESY
- Go over the agenda for the training session

History/Organizational Overview (Hana)

- History of the founding
 - 1994: tore up concrete, started with a few raised beds
 - 1997: added a cooking program in the renovated cafeteria
 - 2005: started to help establish partner programs across the country
 - 2009: held the first Academy, trained 90 professionals
 - 2011: launched esy.org, tool for networking and engagement
- How the program works (students come with their classes; frequency of classes)
 - 1,010 students in grades 6,7,8
 - Classroom teachers bring students for 4-8 weeks in a row, 1x/week, or for week long immersions
 - Modified Block schedule, so classes last different amounts of time depending on grade or day of the week
 - Normally, science classes come to the garden, humanities classes to the kitchen
- Values and skills and classroom content covered in ESY classes
 - 50% of lessons linked to classroom content



- 50% of lessons linked to ESY standards, such as: seasonality, bio-diversity, teamwork, communication, problem solving, decision making, rituals and routines, the importance of showing you care, making things beautiful for each other.

Changes for this year (Jason)

- Garden Program has changed most dramatically.
 - Garden volunteers used to be linked to classes, but now garden volunteers are linked to specific tasks in the garden, at whatever time is suitable for them
 - Kitchen volunteers are still linked to classes, which will make their schedules a bit less regular than they have been in the past, due to the fact that class times will vary based on grade and day of the week
 - Hope to better utilize volunteers to help us in areas where we need help the most, along with providing a fulfilling experience for our volunteers.

Expectations/Handbook/Scheduling (Hana)

- Quick overview of handbook,
 - Linger on Volunteer expectations
- Go over a few examples of class schedules
- Please note that we will ask how long you were during your sign in sign out process, very important that you complete this!

ESY Culture Principles (Griselda)

- Overview of document including history and reason for implementing (5)
- Culture Principles- Find your card match, share with each other, explain why this culture principle is important in the classroom(5)
- Have one (or both time allowing) share out to group
- Close by wrapping up the discussion, why these principles matter amongst volunteers and classrooms culture

Volunteer/ESY Staff Communication (Griselda)

- Through this period of change in our volunteer program we are striving for more communication and feedback, going both directions, to better implement and improve our volunteer program.



- Feedback form to complete after first class and after 1 month. Or whenever you wish to fill it out!
- Please feel free to email at any time with any questions, concerns, issues, or feedback.
- We are happy to debrief after class in person but may not have time to do so completely, or may not be in the right state to do it well.
- You can expect positive and constructive feedback on your work here. This is normal and should be received as an opportunity to improve not as a valuation of you. Flex that growth mindset!
- We are all learning and improving together to do our best for our students.

Questions and Closing

Participant Materials

Handbook
Culture Article
ESY Workplace Culture
Garden and Kitchen Checklists

Facilitator Materials

Large Flip Chart
Culture Cards
Cultural Responsiveness Statement Clause Chart
Markers



Edible Schoolyard Volunteer Resource List 2016-17

Articles

1. Susan B. Goldberg and Cameron Levin, "Towards A Radical White Identity"
2. Keith Heggart, "Developing a Growth Mindset in Teachers and Staff"
3. Nicolas Kristof, "The Asian Advantage" in NYT:
4. Peggy McIntosh, "White Privilege: Unpacking the Invisible Knapsack"
5. Jamie Utt, "10 Ways Well-Meaning White Teachers Bring Racism Into Our Schools"
6. JJ Zarrillo, "How Culture Shapes Learning"

Books

1. Beverly Daniel Tatum, *Why Are All The Black Kids Sitting Together In The Cafeteria?*
 - This book outlines racial identity development and the challenges with having meaningful conversations on race. Available at the Berkeley Public Library
2. Kim Case, *Deconstructing Privilege: Teaching and Learning as Allies in the Classroom*
 - This edited collection explores best practices for effective teaching and learning about various forms of systemic group privilege such as that based on race, gender, sexuality, religion, and class. *Available as an e-book on the Berkeley Public Library website*
3. Ta-Nehisi Coates, *Between the World and Me* (available at the Berkeley Public Library)
 - This book is written as a letter to the author's teenaged son about the feelings, symbolism, and realities associated with being black in the United States.



Blogs

1. BDG - “Black Girl Dangerous”
 - This blog features a huge variety of writing that focuses on social justice from the perspective of queer and trans people of color.
2. Good Little White Girl
 - This blog, written by Bay Area resident Janet Carter, aims to create a space for a conversation around racial conditioning. In it, she investigates the ways she learned to be white growing up in a white liberal family in the Vermont of the 1950s and 1960s.

Websites / Resource Lists

1. Brown University - Culturally Responsive Teaching
 - This compilation of short readings outlines seven aspects of culturally responsive teaching - “a pedagogy that recognizes the importance of including students’ cultural references in all aspects of learning.”
2. It’s Pronounced Metrosexual - “The Genderbread Person”
 - This website offers a wealth of resources designed to help advance social equity. Specifically relevant to our work at the Edible Schoolyard is [“The Genderbread Person.”](#) an easy-to-understand “edugraphic” of a fluid, non-binary model of gender and sexuality.
3. White Noise Collective - Resource List
 - An extensive list of online readings mostly focused on issues of privilege and oppression in relation to race, gender, and the intersection between the two.

Videos

1. Carol Dweck, “Developing a Growth Mindset”
2. Civil Schools ft. Jamie Utt, “Teacher Identity, Culturally Responsive Teaching, and Microaggressions”



Activities To Do

1. Harvard University: Project Implicit - Personal Bias Test
 - Project Implicit offers a variety of personal bias tests online, including tests that relate to racial, gender, and sexuality bias - a great resource for becoming aware of unconscious bias.
2. Purdue University - Knowledge of Cultural Self-Awareness Assignment
 - This activity offers a framework for becoming aware of your own level of cultural self-awareness. They define cultural self-awareness as “at the minimum, understanding your own culturally determined identity, rules, and biases,” and eventually leading to a greater comfort with new cultural perspectives.

Trainings

1. The UNTraining
 - The UNTraining works to “heal personal and social oppressions” by leading anti-oppression and anti-racism group trainings for white people and people of color. Current offerings include “UNTraining White Liberal Racism,” “People of Color Group,” “Neither Here Nor There: Being Chinese in America,” and “Jewish and White in America.”
2. White Noise Collective
 - The White Noise Collective focuses on exploring issues of privilege and oppression, mainly in relation to race and gender, and the intersection between those two. They offer periodic workshops and free monthly dialogues (open by invitation or to previous workshop participants). Some sample workshops include “Introduction to the Intersection of Whiteness and Femeness,” “Difficult Conversations,” and “White Females in Food Justice: Maintaining of Challenging the System?” Their website includes an extensive list of online resources.

6. I always know what I can do to be helpful and supportive.

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

7. I feel comfortable asking the Edible Schoolyard staff for help.

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

8. I feel my time is well spent volunteering at the Edible Schoolyard.

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

9. Feel free to elaborate on any of your answers here:

10. Do you have any unresolved incidents, issues, or concerns from this year?

11. Do you have moments of joy or inspiration to share from this year?

12. How do you describe what you do at the Edible Schoolyard to family and friends?

13. Do you have a talent or skill we don't know about that could enhance the ESY program?

e.g. I love to play music with kids

14. Do you have any feedback for Edible Schoolyard Staff?

15. Do you have any areas of growth where you would like feedback from Edible Schoolyard staff?

16. Would you like to volunteer next year?

17. Your Name:

(Optional)



ESY All Staff Meeting		Date: 05/24/17 Time: 3:00 PM Place: Kitchen Cultural Principle of the week: We are committed to developing our cultural humility Norm of the week: Mission and strategy is the metric Norm keeper: Esther
AGENDA ITEMS:	NOTES:	
<p>Opening (13 Minutes)</p> <ul style="list-style-type: none">• Mini Check-in (~15 sec per person)• Appreciations• Actions follow-up• What's on your plate? (~30 sec per person)• Calendar Review (2 min)• Add items to Agenda <p>Quick Check In (10 Minutes)</p> <ul style="list-style-type: none">• Quick Items, no discussion just updates <p>Hot Take (25 minutes)</p> <ul style="list-style-type: none">• This agenda item is open for discussion and collaboration <p>Closing (5 minutes)</p> <ul style="list-style-type: none">• Norm keeper report out (2 min)• Review of actions (1 min)• Next week's cultural principle (1 min)<ul style="list-style-type: none">◦ Professionalism• Close Meeting		
ACTIONS Follow Up:		
ITEMS FOR NEXT MEETING:		

**Norm of the Week: 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.

Culture Principle of the week: MISSION AND STRATEGY IS THE METRIC: In every decision our mission and our specific objectives are our key consideration.



Staff and Volunteer Calendars and Scheduling

Calendars and Scheduling

The Edible Schoolyard uses Google Calendar for all scheduling and calendar needs. Below is our process and method for sharing important dates, volunteer schedules, and class times interorganizationally as well as with our volunteers and external partners.

Staff Calendar

For all event titles, we begin with the following codes:

- MEETING
- EVENT
- TOUR
- PROGRAM
- OFF-SITE

	Sun 11/12	Mon 11/13	Tue 11/14	Wed 11/15	Thu 11/16	Fri 11/17	Sat 11/18
12am							
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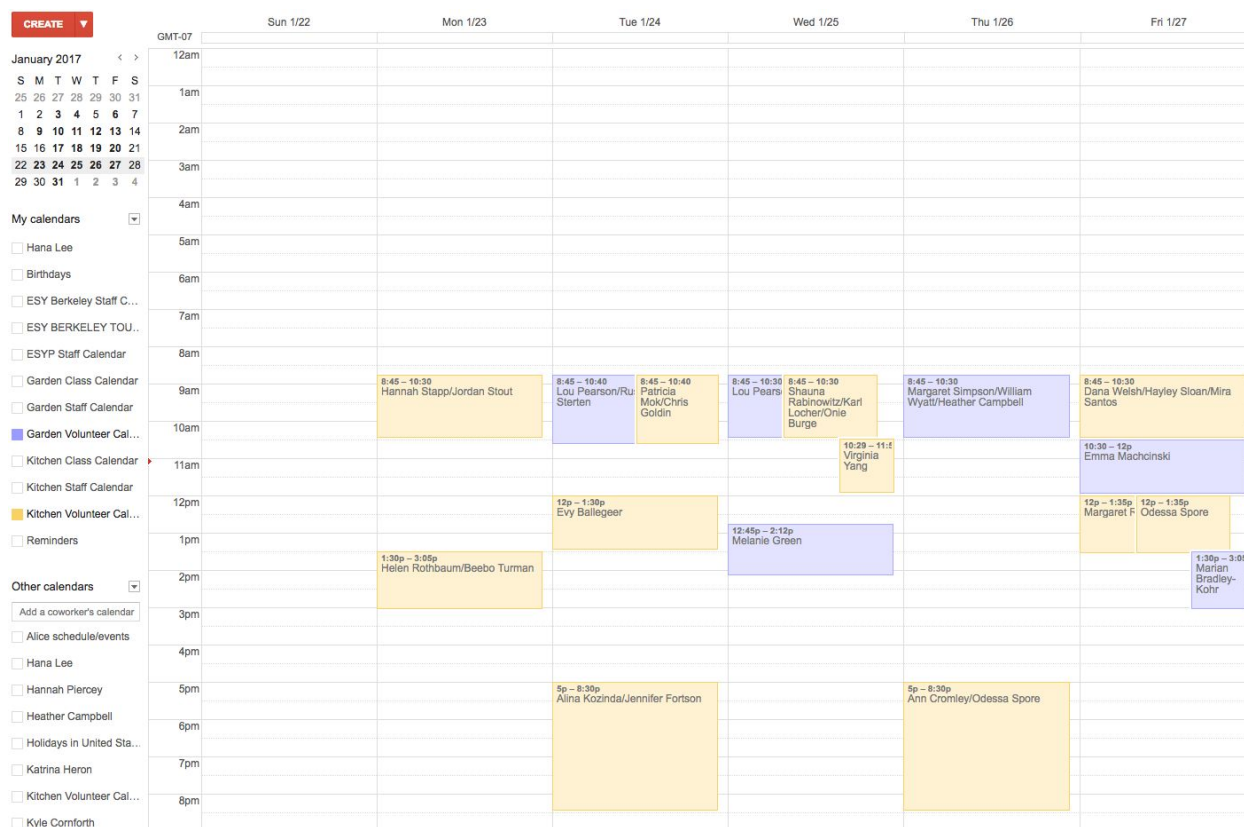


Volunteer Calendar and Scheduling

Volunteers are scheduled based on our class schedule and volunteer availability.

Use the volunteer's name as the event title. For ease, we keep our Garden and Kitchen volunteers separate (note the purple and yellow key on the left).

This Calendar is also embedded on our website for volunteers to check their schedules.





White Supremacy Culture

From Dismantling Racism: A Workbook for Social Change Groups, by Kenneth Jones and Tema Okun, ChangeWork, 2001

The characteristics listed below are damaging because they are used as norms and standards without being pro-actively named or chosen by the group. They are damaging to both people of color and to white people.

Perfectionism

- little appreciation expressed among people for the work that others are doing; appreciation that is expressed usually directed to those who get most of the credit anyway
- more common is to point out either how the person or work is inadequate
- or even more common, to talk to others about the inadequacies of a person or their work without ever talking directly to them
- tendency to identify what's wrong; little ability to identify, name, and appreciate what's right

antidotes: develop a culture of appreciation, where the organization takes time to make sure that people's work and efforts are appreciated; develop a learning organization, where it is expected that everyone will make mistakes and those mistakes offer opportunities for learning; when offering feedback, always speak to the things that went well before offering criticism

Sense of Urgency

- continued sense of urgency that makes it difficult to take time to be inclusive, encourage democratic and/or thoughtful decision-making, to think long-term, to consider consequences
- frequently results in sacrificing potential allies for quick or highly visible results, for example sacrificing interests of communities of color in order to win victories for white people (seen as default or norm community)
- reinforced by funding proposals which promise too much work for too little money and by funders who expect too much for too little

antidotes: realistic workplans; leadership which understands that things take longer than anyone expects; discuss and plan for what it means to set goals of inclusivity and diversity, particularly in terms of time; learn from past experience how long things take; write realistic funding proposals with realistic time frames; be clear about how you will make good decisions in an atmosphere of urgency

Defensiveness

- the organizational structure is set up and much energy spent trying to



prevent abuse and protect power as it exists rather than to facilitate the best out of each person or to clarify who has power and how they are expected to use it

- people respond to new or challenging ideas with defensiveness, making it very difficult to raise these ideas
- a lot of energy in the organization is spent trying to make sure that people's feelings aren't getting hurt or working around defensive people

antidotes: understand that structure cannot in and of itself facilitate or prevent abuse; understand the link between defensiveness and fear (of losing power, losing face, losing comfort, losing privilege); work on your own defensiveness; name defensiveness as a problem when it is one; give people credit for being able to handle more than you think; discuss the ways in which defensiveness or resistance to new ideas gets in the way of the mission

Quantity Over Quality

- all resources of organization are directed toward producing measurable goals
- things that can be measured are more highly valued than things that cannot, for example numbers of people attending a meeting, newsletter circulation, money spent are valued more than quality of relationships, democratic decision-making, ability to constructively deal with conflict
- little or no value attached to process; if it can't be measured, it has no value
- discomfort with emotion and feelings
- no understanding that when there is a conflict between content (the agenda of the meeting) and process (people's need to be heard or engaged), process will prevail (for example, you may get through the agenda, but if you haven't paid attention to people's need to be heard, the decisions made at the meeting are undermined and/or disregarded)

antidotes: include process or quality goals in your planning; make sure your organization has a values statement which expresses the ways in which you want to do your work; make sure this is a living document and that people are using it in their day to day work; look for ways to measure process goals (for example if you have a goal of inclusivity, think about ways you can measure whether or not you have achieved that goal); learn to recognize those times when you need to get off the agenda in order to address people's underlying concerns

Worship of the Written Word

- if it's not in a memo, it doesn't exist
- the organization does not take into account or value other ways in which information gets shared
- those with strong documentation and writing skills are more highly valued
- the belief there is one right way to do things and once people are introduced to the right way, they will see the light and adopt it



- similar to the missionary who does not see value in the culture of other communities, sees only value in their beliefs about what is good

antidotes: accept that there are many ways to get to the same goal; once the group has made a decision about which way will be taken, honor that decision and see what you and the organization will learn from taking that way, even and especially if it is not the way you would have chosen; work on developing the ability to notice when people do things differently and how those different ways might improve your approach; look for the tendency for a group or a person to keep pushing the same point over and over out of a belief that there is only one right way and then name it; when working with communities from a different culture than yours or your organization's, be clear that you have some learning to do about the communities ways of doing; never assume that you or your organization know what's best for the community in isolation from meaningful relationships with that community

Paternalism

- decision-making is clear to those with power and unclear to those without it
- those with power think they are capable of making decisions for and in the interests of those without power
- those with power often don't think it is important or necessary to understand the viewpoint or experience of those for whom they are making decisions
- those without power understand they do not have it and understand who does
- those without power do not really know how decisions get made and who makes what decisions, and yet they are completely familiar with the impact of those decisions on them

antidotes: make sure that everyone knows and understands who makes what decisions in the organization; make sure everyone knows and understands their level of responsibility and authority in the organization; include people who are affected by decisions in the decision-making

Either/Or Thinking

- things are either/or, good/bad, right/wrong, with us/against us
- closely linked to perfectionism in making it difficult to learn from mistakes or accommodate conflict
- no sense that things can be both/and
- results in trying to simplify complex things, for example believing that poverty is simply a result of lack of education
- creates conflict and increases sense of urgency, as people are felt they have to make decisions to do either this or that, with no time or encouragement



to consider alternatives, particularly those which may require more time or resources

antidotes: notice when people use either/or language and push to come up with more than two alternatives; notice when people are simplifying complex issues, particularly when the stakes seem high or an urgent decision needs to be made; slow it down and encourage people to do a deeper analysis; when people are faced with an urgent decision, take a break and give people some breathing room to think creatively; avoid making decisions under extreme pressure

Power Hoarding

- little, if any, value around sharing power
- power seen as limited, only so much to go around
- those with power feel threatened when anyone suggests changes in how things should be done in the organization, feel suggestions for change are a reflection on their leadership
- those with power don't see themselves as hoarding power or as feeling threatened
- those with power assume they have the best interests of the organization at heart and assume those wanting change are ill-informed, emotional, inexperienced

antidotes: include power sharing in your organization's values statement; discuss what good leadership looks like and make sure people understand that a good leader develops the power and skills of others; understand that change is inevitable and challenges to your leadership can be healthy and productive; make sure the organization is focused on the mission

Fear of Open Conflict

- people in power are scared of conflict and try to ignore it or run from it
- when someone raises an issue that causes discomfort, the response is to blame the person for raising the issue rather than to look at the issue which is actually causing the problem
- emphasis on being polite
- equating the raising of difficult issues with being impolite, rude, or out of line

antidotes: role play ways to handle conflict before conflict happens; distinguish between being polite and raising hard issues; don't require those who raise hard issues to raise them in acceptable ways, especially if you are using the ways in which issues are raised as an excuse not to address the issues being raised; once a conflict is resolved, take the opportunity to revisit it and see how it might have been handled differently



Individualism

- little experience or comfort working as part of a team
- people in organization believe they are responsible for solving problems alone
- accountability, if any, goes up and down, not sideways to peers or to those the organization is set up to serve
- desire for individual recognition and credit
- leads to isolation
- competition more highly valued than cooperation and where cooperation is valued, little time or resources devoted to developing skills in how to cooperate
- creates a lack of accountability, as the organization values those who can get things done on their own without needing supervision or guidance

antidotes: evaluate people based on their ability to delegate to others; evaluate people based on their ability to work as part of a team; include teamwork as an important value in your values statement; make sure that credit is given to all those who participate in an effort, not just the leaders or most public person; make people accountable as a group rather than as individuals; create a culture where people bring problems to the group; use staff meetings as a place to solve problems, not just a place to report activities

Progress is Bigger, More

- observed in systems of accountability and ways we determine success
- progress is an organization which expands (adds staff, adds projects) or develops the ability to serve more people (regardless of how well they are serving them)
- gives no value, not even negative value, to its cost, for example, increased accountability to funders as the budget grows, ways in which those we serve may be exploited, excluded, or underserved as we focus on how many we are serving instead of quality of service or values created by the ways in which we serve

antidotes: create Seventh Generation thinking by asking how the actions of the group now will affect people seven generations from now; make sure that any cost/benefit analysis includes all the costs, not just the financial ones, for example the cost in morale, the cost in credibility, the cost in the use of resources; include process goals in your planning, for example make sure that your goals speak to how you want to do your work, not just what you want to do; ask those you work with and for to evaluate your performance



Objectivity

- the belief that there is such a thing as being objective
- the belief that emotions are inherently destructive, irrational, and should not play a role in decision-making or group process
- invalidating people who show emotion
- requiring people to think in a linear fashion and ignoring or invalidating those who think in other ways
- impatience with any thinking that does not appear logical to those with power

antidotes: realize that everybody has a world view and that everybody's world view affects the way they understand things; realize this means you too; push yourself to sit with discomfort when people are expressing themselves in ways which are not familiar to you; assume that everybody has a valid point and your job is to understand what that point is

Right to Comfort

- the belief that those with power have a right to emotional and psychological comfort (another aspect of valuing logic over emotion)
- scapegoating those who cause discomfort
- equating individual acts of unfairness against white people with systemic racism which daily targets people of color

antidotes: understand that discomfort is at the root of all growth and learning; welcome it as much as you can; deepen your political analysis of racism and oppression so you have a strong understanding of how your personal experience and feelings fit into a larger picture; don't take everything personally

One of the purposes of listing characteristics of white supremacy culture is to point out how organizations which unconsciously use these characteristics as their norms and standards make it difficult, if not impossible, to open the door to other cultural norms and standards. As a result, many of our organizations, while saying we want to be multicultural, really only allow other people and cultures to come in if they adapt or conform to already existing cultural norms. Being able to identify and name the cultural norms and standards you want is a first step to making room for a truly multi-cultural organization.



A Typical Edible Schoolyard Family Nights Out Class

Overview

A typical Family Nights Out class at the Edible Schoolyard Berkeley is from 5:30pm – 7:30pm and emphasizes the cooking and eating dinner together. The basic format of a Family Nights Out class mirrors a typical kitchen class, however at Family Nights Out classes we prepare an entire meal. Participants in our Family Nights Out classes range in age and kitchen confidence. Our classes are flexible and adaptable, appealing to students, parents, toddlers, and grandparents alike.

Entering the Kitchen (ongoing)

As participants enter the kitchen, we welcome the families and have each person put on a name-tag and sign a raffle ticket. There is a bowl of seasonal fruit by the door for people to snack on. Because parents get off work at different times, and have to commute from various places, most participants trickle in over the course of the first 15-30 minutes.

At the Chef Meeting (10 minutes)

The Chef Meeting is where we introduce our menu for the family class. We typically prepare three recipes per table, and menus reflect what the students are currently learning in their regular kitchen classes. A standard Family Nights Out menu contains a balance of grains, vegetables, and protein.

1. Introduce the staff and the menu for the evening. Review basic kitchen rules and systems.
2. Explain why each recipe was chosen for the class (i.e., simplicity, nutrition, cost, etc.) and how each recipe contributes to creating a balanced and complete meal.
3. Emphasize the kitchen skills and life skills in each recipe and discuss possible variations on the menu.
4. Address how to use the leftover ingredients in other recipes (i.e., what can you make with leftover beans? How can you use extra sweet potato?)
5. If applicable, discuss budgeting issues and cost effectiveness.
6. Take questions.

At the Table

After the Chef Meeting, have participants wash their hands and break up into three cooking groups. If possible, keep each family together. Groups should have an average of 10 participants, 1 ESY kitchen teacher, and 1-2 community volunteers.

1. Review the recipes and introduce knife skills and cooking methods (5-10 minutes):
 - a. Demonstrate how participants are going to prepare each ingredient on the platter. Identify the various tools that can be used depending on the age, skill level, and confidence of each cook.
 - b. Break down the steps of the recipes and explain the cooking jobs.



2. Check-in and assign cooking jobs (5 minutes)
 - a. Have each participant answer a “check-in” question (i.e., What’s your favorite recipe to cook at home?). This can be a fun or provocative question that may or may not have anything to do with food, but will allow the families to get to know each other.
 - b. Have the participants identify the cooking job(s) they would like to work on for the evening
3. Cook and set the table (60 minutes)
 - a. Participants review the recipes together before breaking up into their cooking jobs.
 - b. Encourage everyone to taste as they cook and adjust the seasoning along the way.
 - c. When the participants are done preparing the ingredients and the food is still cooking, participants clean and set the table. We typically use dinner plates, silverware, cups, and napkins, and, like in a regular kitchen class, participants are encouraged to create a unique centerpiece using flowers from the garden and other interesting items they find around the kitchen.
4. Eat (20-30 minutes)
 - a. Since the families prepare an entire dinner, the Family Nights Out classes allot more time for eating and conversation. This is also a great opportunity to discuss modifications of the menu and possible adaptations for the recipes.
5. Clean up (5 minutes)
 - a. When the meal is winding down, we talk about how the cleanup process will work. We have participants bus their own plate, cup and silverware to the bussing station, a group will start to work on washing dishes, while others clean the tables and cooking stations.
6. Closing / Something Sweet (5 minutes)
 - a. Once most of the clean up is done, we ask all participants to make a circle around the middle table and hold our raffle. Raffle items are mostly donated items, and range from Edible Schoolyard t-shirts, harvested items from the garden, oils, and sauces to cast iron pots and pans.
 - b. We pass around a tray of seasonal fruit and dates while everyone shares something sweet about their experience in class.

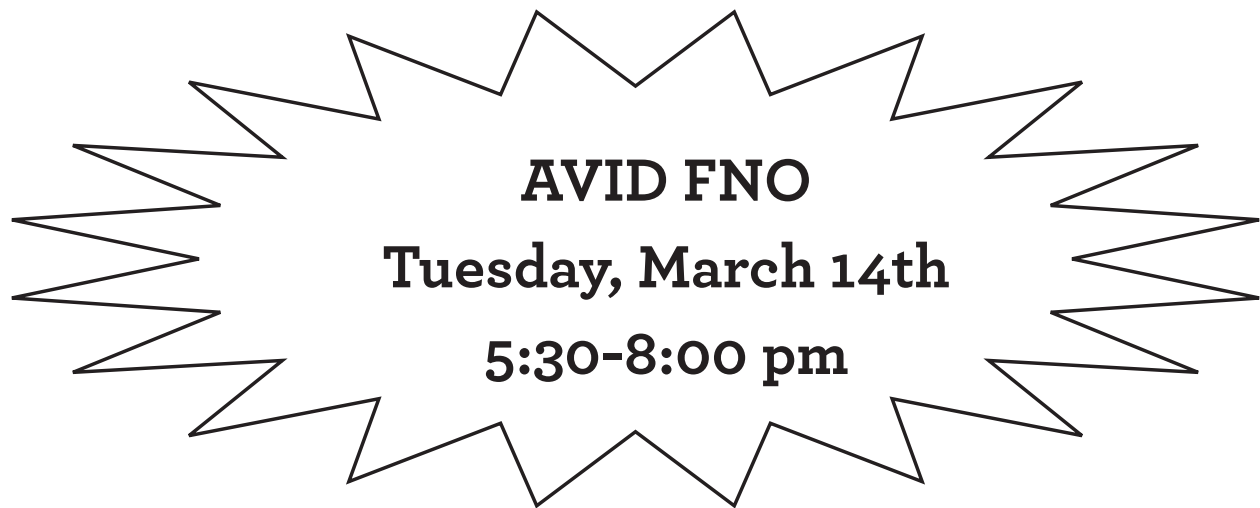


You're invited:

AVID FAMILY NIGHT OUT

at the Edible Schoolyard

AVID teachers and the Edible Schoolyard would like to invite students and their families to dinner at the Edible Schoolyard Kitchen.



We will cook and eat a meal together; share and learn new recipes and techniques for preparing meals at home; and have lots of family fun!



**FOR MORE INFORMATION, ASK GRISELDA COONEY
(griselda@edibleschoolyard.org) OR YOUR AVID TEACHER**

AVID FAMILY NIGHT OUT at the Edible Schoolyard

Registration Information

To register your family, fill out this form and return to your AVID teacher.

Spaces are limited to three per family.

Please return this form as soon as possible.

Student Name: _____

Parent/Guardian Name: _____

Phone Number: _____

Email: _____

Mailing Address: _____

Food Restrictions: _____

Who will be coming?

What do you hope to take away from participating?

Payment Information

Please send your payment with your registration form. We request you pay what you can, and suggest donations on a sliding scale from \$10-\$50. For families who qualify for free or reduced lunch, no payment is required.

☐ Check enclosed for one class

☐ My child qualifies for free or reduced lunch; no payment is required



Family Nights Out Survey

Family Nights Out Surveys

After attending Family Nights Out: Yes or No

- I have a greater understanding of what my student does and learns at the Edible Schoolyard
- I feel more connected to the King community after attending the Family Nights Out classes
- I learned new techniques, skills, or recipes that I am excited to bring into my kitchen
- I learned something new about my student's eating habits and preferences
- I enjoyed the process of cooking collaboratively with my family
- I am excited by how confident and competent my student was in the kitchen.
- I am more likely to trust in my student to cook and help cook at home.
- I am more likely to cook collaboratively with my family in the future.
- I would be interested in attending another Family Nights Out in the future.
- I would recommend Family Nights Out to friends and family.
- How was your experience with using the lottery system

Any comments, thoughts or feedback about your experience at Family Nights Out?



ESY Strategies For Successful Community Engagement

The following is a list of considerations and strategies that have been effective for us in engaging our community. This is not comprehensive or exhaustive, but we hope it offers you some ideas for ways to engage your own communities.

Student Involvement

- Make time to get to know your students in class. They are your first line into what is going on for their families. What do families do? How do they like to spend their evenings or weekends?
- Engage students as advocates for your program. Make sure they have the information they need to be excited about your program and events and be able to bring their families and friends along.
- Engage with students of various ages. Schools are always looking for organizations where students can do community hours. Check with your local high school or college to see if there might be students you can partner with.

Family & Trusted Adults Outreach

- Be cautious of situating your program or events in any way that could make people feel unwelcome because of their culture, beliefs, practices, or way of life. This is especially important with food because everyone's relationship to food is different and so personal - take the opportunity to learn from others as opposed to make judgments or declarations about what is *good* or what people *should* do.
- Spread the word far and wide in as many different forms as possible (phone calls, emails, fliers, announcements, word of mouth, talking to students etc.). Different people will have different ways of receiving information and by diversifying your form of communication, you will reach a more diverse group of stakeholders.
- Make a personal connection whenever possible - call people, talk face-to-face. This is so much more personal than just an email or flier.
- Think about how to make your events accessible for everyone regardless of economic situation (tiered pricing and free options at every event)
- Offer incentives to people who do come (raffle at FNO, extra credit for students who attend, raffle tickets for students at Plant Sale)
- Solicit feedback. Always ask, offer surveys for people who do attend your events to improve your programming.



School & Broader Community

- Familiarize yourself with the broader community, build your network.
- Figure out who your potential stakeholders are - what groups already exist that you can draw in?
- Is there anyone already doing community organizing that could help bring people into your program?
- Show up to community events, get to know people.
- Do you have people who speak other languages that can connect with communities that don't primarily speak English?
- Try to say 'Yes' - think very hard before saying 'no' to somebody. Is there any way you can accommodate a request or support a new idea?
- Take advantage of gatherings of people. If you're at a school, ask teachers if you can talk to kids in class, or visit a community event and drop off fliers. Go to sports meetings and banquets, PTA meetings.
- Get to know your PTA.
- Talk to local businesses and organizations or rotary club that are willing to give donations (swag etc.) that you can offer as raffle prizes.
- Coordinate with important cultural events in your community - host a party for Halloween if that is something special where you live, or offer potlucks for the end-of-year celebrations.
- Make your event somewhere that people build community with one another. This is not about you and your organization, this is about building community and making sure people have a good time.



Resources for Curriculum Development

Books and Tools for Curriculum Development

Lemov, Doug. Teach Like a Champion: 49 techniques that put students on the path to college. San Francisco: John Wiley & Sons, Inc., 2010.

Young, Jon, Evan McGown and Ellen Haas. Coyote's Guide to Connecting with Nature. Santa Cruz: OWLink Media, 2010.

McTighe, Jay and Grant Wiggins. "Understanding By Design Framework." Association for Supervision and Curriculum Development (ASCD).
http://www.ascd.org/ASCD/pdf/siteASCD/publications/UbD_WhitePaper0312.pdf

BEETLES Project, resources for science and field instructors:
<http://beetlesproject.org/resources/>

National School Reform Faculty, Harmony Education Center. Protocols for student engagement: <http://www.nsrffharmony.org/free-resources/protocols/a-z>

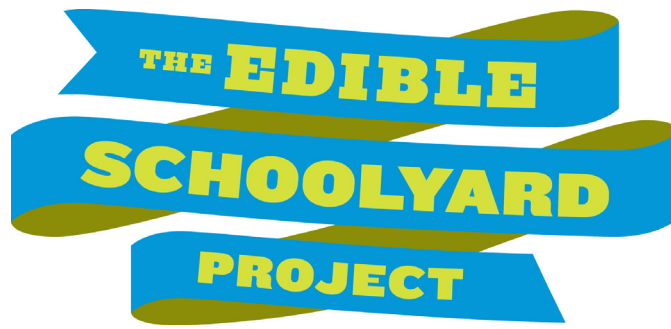
Academic Standards

Common Core State Standards: <http://www.corestandards.org/>

Next Generation Science Standards (NGSS): <https://www.nextgenscience.org/>

Lesson Plans and Other Resources

Edible Schoolyard Resources: <http://edibleschoolyard.org/resources-tools>



A Culture of Giving

At the Edible Schoolyard Project, we love and celebrate the extraordinary generosity of our community! Our community members enable our programs to thrive and grow by giving gifts of time, money, expertise, care, and passionate enthusiasm.

As volunteers who dedicate your time to our program and who experience edible education alongside King students, you have a special understanding of our organization's impact, and the importance of every hour and every dollar invested in this work. We welcome your ideas for how to enlarge ESNP's community of supporters through your networks, and we hope you will invite friends, family members, and colleagues to come for a tour, come to our spring plant sale (held annually in May, on the Saturday before Mother's Day), learn more on our website, and join you in giving to the Edible Schoolyard.

General Information: edibleschoolyard.org

Monthly tours: edibleschoolyard.org/getinvolved

Donations: edibleschoolyard.org/donate or by check to:

The Edible Schoolyard Project
– 1517 Shattuck Avenue –
Berkeley, CA 94709

You can discuss opportunities to donate funds or in-kind goods or services with any member of our team or you may directly contact Liza Siegler, Director of Partnerships and Engagement at liza@edibleschoolyard.org or 510-843-3811.

The Edible Schoolyard Project is a 501(c)(3) public charity.

Our tax ID is 94-3248671



Sample Planning Matrix for Program Fundraising

	In Use	Possibility		
		↑	=	↓
SCHOOL / DISTRICT FUNDS				
School Budget				
Food and Nutrition Services Budget				
PTA/PTO				
Tuition/Fees				
Other:				
SUPPORT FROM INDIVIDUALS				
Direct Mail				
Memberships				
Events / House Parties				
Annual Gifts				
Multi-year pledges				
Crowd-funding online				
Volunteering				
In-kind donations				
Other:				
FOUNDATIONS				
Regional Foundations				
Family/Community Foundations				
Large/national Foundations				
Corporate-based foundations				
Other:				
LOCAL BUSINESSES / CORPORATE SUPPORT				
Sponsorships				
Restaurants / Retail				
In-kind donations				
Matching donations				
Other:				
GOVERNMENT				
Federal Grants / Contracts				
State Grants / Contracts				
Local Grants / Contracts				
Taxes				
Bonds				
Other:				
EARNED REVENUE				
Product Sales				
Consulting				
Fees for services				
Other:				

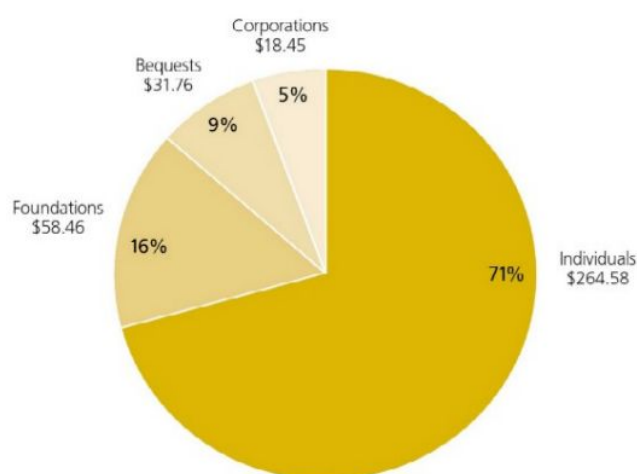


Fundraising Sources of Funding

Federal, State, and Local Governments

Many schools and nonprofits receive funding from federal, state, or local government. Obvious examples are public education, higher education, and the public media. Federal, state, and local government grants fund many programs provided by nonprofits, especially in areas such as urban human service and healthcare.

\$373.25 billion by source of contributions given in 2015
(in billions of dollars—all figures are rounded)



Individual Giving

Individuals are the largest source of private sector funding for nonprofit organizations. According to Giving USA, total charitable giving in the U.S. reached more than \$373 billion in 2015. Of that amount, 71% came from individuals. Individuals give in many ways: they become members, attend events; buy raffle tickets; respond to letters and emails that ask for support; give via text and social media sites; give because friends ask them; sponsor volunteers doing an activity that benefits a good cause; give because they also volunteer; give through online crowdfunding sites; and the list goes on and on.

Private Foundations

Many large, iconic private foundations are or were family or corporate foundations. Gates Foundation, Rockefeller Foundation, Ford Foundation, or W.K. Kellogg Foundation, are examples. These foundations have endowments in the billions and large staffing hierarchies, but most family foundations are much smaller, often fund locally, and frequently have little/no paid staff.

Community Foundations and Public Foundations

Community Foundations (sometimes called Public Foundations) are foundations that aggregate the assets of many different donors. They provide grants, award scholarships, and services to donors within a particular community or with a particular issue focus. Community Foundations and Donor Advised Foundations have become very active in providing donor-advised funds for donors who want to become more directed in their giving but don't want to set up their own private foundations.



Planned Gifts and Bequests

Planned gifts may be defined as a method of supporting nonprofits and charities that enables philanthropic individuals or donors to make larger gifts than they could make from their income. While some planned gifts provide a life-long income to the donor, others use estate and tax planning techniques to provide for charity and other heirs in ways that maximize the gift and/or minimize its impact on the donor's estate.

Corporate Funding

Corporations that give grants get exposure, publicity, community respect, and market share from giving. Their funding is more episodic, revolving around particular campaigns, events, and projects. Corporate funding can be a good source of support for new initiatives, special programs, and special events. Look for opportunities to form partnerships for sponsorships and cause-related marketing.



Fundraising Strategies

Direct Mail Campaigns

An annual appeal to a core group of constituents is a great way to build and sustain a local donor base. Funds raised are usually unrestricted (available for any use) and may represent a substantial percentage of your annual income. Some form of data management system to record mailing information, gift information, and giving history is key to managing annual campaigns and tracking donor relationships over time. Promptly mailed receipts, thank you letters (or phone calls), and recognition of past gifts are all critical to developing and stewarding relationships with donors who give through direct mail.

Online Giving Campaigns

There are multiple websites that can help you run digital campaigns. This has been a fast growing way to reach donors. This type of fundraising requires a fair amount of social media and technological know-how, and much of the same time and attention as more traditional direct mail campaigns. Also, be mindful of the fees some outfits charge on your donations.

Events, Auctions, Raffles

Many programs have annual or seasonal fundraising events. The Edible Schoolyard Berkeley hosts a plant sale every spring. This includes a raffle, food, and plants that are propagated by the students and staff. By including student-led tours and gardening advice from staff, events of this kind not only raise money but also bring the community together to experience the program firsthand.

Earned Revenue

Some nonprofits provide programs and services that can generate a substantial income stream. In addition to event tuition and summer camp fees, we have seen programs make and sell t-shirts, hats, publications, recipe books, food products, and plants. Earned income must be related to the mission of the organization or it can be taxed as unrelated business income.

Membership Programs

Members generally feel more ownership and involvement than donors and often expect to be asked to contribute things in addition to money, like volunteer time, political support, expertise, and influence. Levels of membership allow for different degrees of investment and involvement. What motivates people to become a member depends on your mission. In some cases, members may simply want a stronger sense of affiliation with the work you do or gain satisfaction from knowing that they are making a bigger difference. In others, members may be looking for concrete benefits, such as program participation or CSA shares.



Major Donors

There are many ways to develop a Major Donor program. One way to do this is to organize a tiered menu of opportunities to sponsor different program areas. This can always be on hand to provide an individual donor with options on how to match their dollars with their interests. Intimate house parties (or garden parties) hosted by an existing donor can also be an effective way of introducing your program to prospective donors.

Planning Support

Foundations and individuals may provide seed funding to help you conduct research and develop a plan for a new program or initiative. This investment and the resulting plan, can be extremely helpful in approaching supporters when it comes time to raise funds for piloting and implementing.

Multi-Year Pledges and Grants

Many individual donors and foundations recognize the inherent challenges of annual fundraising cycles and seek to support the growth of an organization's programs over multiple years. It can help to increase a committed donor's gift by asking for a stretch amount to be given in installments over multiple years.

Project Support vs. General Support

Funders may provide restricted funding for a particular project or program, or unrestricted funding, which leaves use to the discretion of the organization and can help cover operational and overhead costs.

Endowment Income

Many large nonprofits, particularly higher education institutions and healthcare organizations, build up large endowment funds that produce interest annually, which is used to support the organization.

Capital Campaign

A capital campaign can raise grants, gifts, and secure loans. It is typically a multi-year fundraising campaign with a particular goal such as:

- ★ Funding a new building
- ★ Funding a particular project with a specific scope



Fundraising: Best Practices in Grant Writing

Top Five Tips for Successful Grant Writing

1. **Only 7% of “cold” proposals are funded, so make yourself known.**
Before writing anything to anyone, do your research on how well the grantmaking organization “fits” your vision. If there’s a strong fit, then try to make direct contact with someone there to ask questions about their process and how much you can request.
2. **Review and follow the exact instructions described in the application.**
If the foundation wants you to deliver five copies of each proposal, each with three staples across the top, and a budget written in fluorescent ink, to its office via camel in the middle of the night only on Leap Day every four years, then that’s what you’ll do. Not following directions is one of the primary reasons grants are not funded. Make a checklist and check it twice!
3. **Have a clear project budget.** Your budget should tie logically to the “How” activities described in your proposal. If the expenses don’t match the activities, that can raise doubts about your ability to plan and carry out your project. Ask for help from a colleague, volunteer, or board member if you need it.
4. **Your familiarity can breed confusion for newcomers.** Have someone who is totally unfamiliar with your project read it and ask questions. Put the answers to those questions directly into your proposal—explain in detail anything that is unclear to someone who doesn’t know your project as intimately as you do. And remember: beware the acronym!
5. **Proofread. Spellcheck. Accept tracked changes.** Leave time for careful review by two pairs of eyes. Seems simple, yet these kinds of careless mistakes are popular routes to the decline pile. Whenever possible, submit electronic documents in PDF format—and don’t forget to take extra care with the spelling and grammar in email subject lines.



Typical Elements of a Funding Proposal

Executive Summary

The summary is a quick view for the funder to understand at a glance what you are seeking. At the beginning of a proposal, write a short summary of what you are proposing. The summary can be as short as a couple of sentences, but no longer than one page. Make sure it includes a brief description of the project, your organization's mission and vision, what makes you valuable, the amount you're requesting, and the timeframe in which you intend to use the grant.

Statement of Need

This is the meat of grant proposals; it's where you must convince the funder that what you propose to do is important and that your organization is the right one to do it. Assume that the reader does not know much about the issue or subject. Explain *why* the issue is important. It is also a good practice to have an overview of the population you serve: How many students? What are the demographics? What percentage of the student body qualifies for free and reduced lunch?

Goals and Objectives

What does your organization plan to do about the problem? This is the section where you outline your theory of change. How does the work you do solve the problem you are addressing? What will change as a result of this work? Spell out specific achievable objectives and results that the grant support will enable you to carry out. Make sure to include the project timeline.

Methods and Strategies

Spell out *how* you will achieve the goals and objectives you've set out earlier. This can be in the form of a work plan or a bulleted list of action items that you and your team will accomplish.

Evaluation

How will you assess your program's accomplishments? How will you make sure this project is sustainable over time? Funders want to know that their dollars actually did some good. So decide now how you will evaluate the impact of your project. Include what records you will keep or data you will collect, and how you will use that data. If the data collection costs money, be sure to include that cost in your budget.



Budget

Any grant proposal or request should include a detailed budget for the project. It is important to build in staff time for meeting, planning, and executing the project, materials or capital expenses, and any other expenses you will incur over the course of the project. Many funders use the 5-50 rule of thumb to gauge whether their funding will make a significant impact, but not leave a program disproportionately reliant on their funds. So think about targeting grants that are no less than 5% and no more than 50% of your project's budget.

Other Sources of Funding

Have you gotten committed funds from other sources? Or have you asked other sources? Most funders do not wish to be the sole or primary source of support for a project. Be sure to mention in-kind contributions you expect, such as meeting space or equipment. Is this a pilot project with a limited timeline? Or will it go into the future? If so, how do you plan to fund it over time? How will you sustain it over the long haul? Do you have a diverse range of types of support and a strategy for gaining support (direct and in-kind) from different kinds of givers?

Organizational Information

In a few paragraphs, explain what your organization does and why the funder can trust it to use the requested funds responsibly and effectively. Give a short history of your organization: State its mission, the population it serves, and an overview of its track record in achieving its mission. Describe or list your programs and the background of program leadership. Be complete in this part of your proposal even if you know the funder or have gotten grants from this grantmaker before. If space allows, here's where you might add an anecdote/story of success that shows the power of the project's impact.

Cover Letter

The cover letter is best written once you have all the other pieces in place. It is a good practice to make sure the letter is formatted beautifully, as this is the first impression your donors will have. The cover letter is also a good place to remind readers of previous funding, conversations, or other specifics of your professional relationship.



The Donor-Centric Pledge

Written by Simone Joyaux and Tom Ahern from
Keep Your Donors: The Guide to Better Communications and Stronger Relationships.

We, [fill in the name of your nonprofit organization here], believe that...

1. Donors are essential to the success of our mission.
2. Gifts are not “cash transactions.” Donors are not merely a bunch of interchangeable, easily replaceable credit cards, checkbooks and wallets.
3. No one “owes” us a gift just because our mission is worthy.
4. Any person who chooses to become our donor has enormous potential to assist the mission.
5. Having a program for developing a relationship with that donor is how organizations tap that enormous potential.
6. We waste that potential when donors are not promptly thanked.
7. “Lifetime value of a donor” is the best (though often overlooked) way to evaluate “return on investment” in fundraising.
8. Donors are more important than donations. Those who currently make small gifts are just as interesting to us as those who currently make large gifts.
9. Acquiring first-time donors is easy, but keeping those donors is hard.
10. Many first-time gifts are no more than “impulse purchases” or “first dates.”
11. We’ll have to work harder for the second gift than we did for the first.
12. A prerequisite for above-average donor retention is a well-planned donor-centric communications program that begins with a welcome.
13. Donors want to have faith in us, and it’s our fault if they don’t.
14. Donors want to make a difference in the world—and our mission is one of many means to that end.
15. Donors are investors. They invest in doing good. They expect their investment to prosper, or they’ll invest somewhere else.
16. We earn the donor’s trust by reporting on our accomplishments and efficiency.
17. Individual donors respond to our appeals for personal reasons we can only guess at.



18. Asking a donor why she or he gave a first gift to us will likely lead to an amazingly revealing conversation.
19. Fundraising serves the donor's emotional needs as much as it serves the organization's financial needs.
20. We are in the "feel good" business. Donors feel good when they help make the world a better place.
21. A prime goal of fundraising communications is to satisfy basic human needs, such as the donor's need to feel important and worthwhile.
22. The donor's perspective defines what is a "major gift." (For example, a repeat donor of \$25 annual gifts who suddenly increases her gift ten-fold to \$250 is making a major commitment that deserves special acknowledgement.)
23. Every first gift can open a door to an entirely new world for the donor through participation in our cause.



Recommended Fundraising (and Nonprofit) Resources

Compiled by Stephanie Roth, Klein & Roth Consulting

Magazines

Grassroots Fundraising Journal, bi-monthly magazine, www.grassrootsfundraising.org

Chronicle of Philanthropy, bi-weekly tabloid, www.philanthropy.com

Nonprofit Quarterly, www.nonprofitquarterly.org

Books

The Accidental Fundraiser: A Step-by-Step Guide to Raising Money for Your Cause, by Stephanie Roth and Mimi Ho, www.josseybass.com/go/kimkleinfundraising

Fundraising for Social Change, by Kim Klein, www.josseybass.com/go/kimkleinfundraising

Reliable Fundraising in Unreliable Times, by Kim Klein,
www.josseybass.com/go/kimkleinfundraising

How to Write Successful Fundraising Letters, by Mal Warwick, www.josseybass.com

Governance as Leadership: Reframing the Work of Nonprofit Boards, by Richard Chait, William Ryan and Barbara Taylor, www.wiley.com

Train the Board (and Everyone Else) to Raise Money, by Andy Robinson and Andrea Kihlstedt,
www.emersonandchurch.com

Websites

Klein & Roth Consulting, www.kleinandroth.com

Grassroots Institute for Fundraising Training (GIFT), www.grassrootsfundraising.org
sponsors of the bi-annual Money for Our Movements: A Social Justice Fundraising Conference

Network for Good, www.networkforgood.org

Idealware, www.idealware.org

NTEN, www.nten.org

M+R Strategic Services, www.mrss.com

Mal Warwick and Associates,
www.malwarwick.com

CompassPoint Nonprofit Services,
www.compasspoint.org



Fundraising & Marketing Blogs

www.theagitator.net
www.wildwomanfundraising.com
www.futurefundraisingnow.com
www.pkscribe.com
www.nonprofitmarketingblog.com
www.aherncomm.com
www.gettingattention.org

Additional Reports and Links

UnderDeveloped

https://www.compasspoint.org/sites/default/files/documents/UnderDeveloped_CompassPoint_HaasJrFund_January%202013.pdf

Beyond Fundraising

http://www.haasjr.org/sites/default/files/resources/Haas_CultureofPhilanthropy_F1.pdf

Fundraising Bright Spots

http://www.haasjr.org/sites/default/files/resources/Haas_BrightSpots_F2.pdf

Top 10 Fundraising Tips

www.craigslfoundation.org/resources/top-ten-fundraising-tips

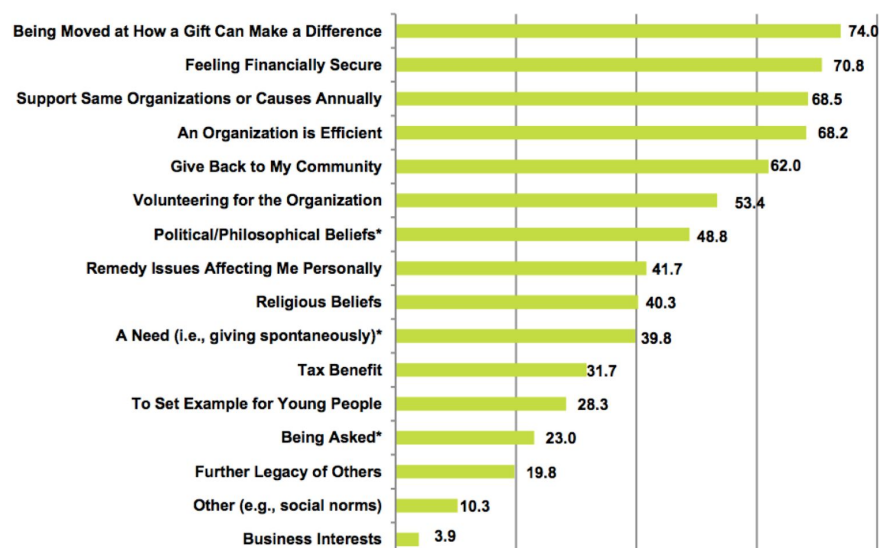
Presenters: Darian Rodriguez Heyman, Nicci Noble



Bank of America Study of High Net Worth Donors (2012)

FIGURE 40: HIGH NET WORTH DONORS REPORTING GIVING BASED ON MOTIVATION TYPE IN 2011^ (%)

"On a scale of 1 to 5, do you usually give because of [or to] ?"





Grassroots Fundraising Principles and Best Practices Toolkit

Prepared for MAG-NET Anchor's Initiative Webinar Participants
by Vanessa Huang

Table of Contents

1. Understanding Your Relationship to Money
5. Grassroots Fundraising: What's the Point?
6. Using this Toolkit: Key Terms and Methods
7. Fundraising = Friend-Raising!
8. Building Your Volunteer Fundraising Team
9. Key Tactics to Consider for Your Grassroots Fundraising
10. Head, Heart, and Hands! Mapping Your Collective Fundraising Body (Assessment Part 1)
11. Identifying Where to Focus Your Fundraising Resources and Time (Assessment Part 2)
12. You Can Do This! Fundraising Campaign Planning Worksheet
13. Acknowledgments and Resources

Understanding Your Relationship to Money

In order to fully engage with our transformative work as organizers and fundraisers, we must also understand the financial taboos, stories, and safety strategies we've inherited or adopted, and imagine new possibilities and strategies in organizations and communities that are rooted in collective safety, access, and liberation.

By understanding our own relationship to money, and discovering any taboos or blocks we may be holding, we can fully embrace and inhabit our potential as leaders; effectively plan and integrate grassroots fundraising strategies; and organize our comrades, friends, staff, and volunteers to join us in growing a culture of fundraising and support.

Take 15 minutes to write out some reflections here on your money history. No one will read this but you. Some questions you might consider:

- How did your parents or primary caregivers handle money? Did they disagree? How did you feel about the way they handled money?

-
- This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

- What were your early money messages?

- And what did these messages teach you about how to relate to money?

- How might your money history affect you today?

- How does your organization handle and relate to money, and why?

- What is your organization's fundraising philosophy, whether explicitly stated or implicitly held by its dominant culture or leadership?

- How might this philosophy and your feelings about it support or hinder your organization's grassroots fundraising work?

- How has the Occupy movement affected your organization's philosophy, and your own?

Grassroots Fundraising: What's the Point?

Jot down some key grassroots fundraising slogans onto the picket signs. Feel free to find some winning slogans from the "Word Credit Union" below.

Word Credit Union of Key Fundraising Slogans:

Fundraising is F-U-N, and for All of Us!

The Culture We Want is the Culture We Need!

Whose Streets? Our Streets! Let the Data Wait!

Fundraising is Boring, and for One Paid Staff! Recruit Great Staff!

Sell, Sell, Sell! Fundraising is Brand Making!

Take the money and run!

Go, Go, Data Entry! You Keep Us in the Streets!

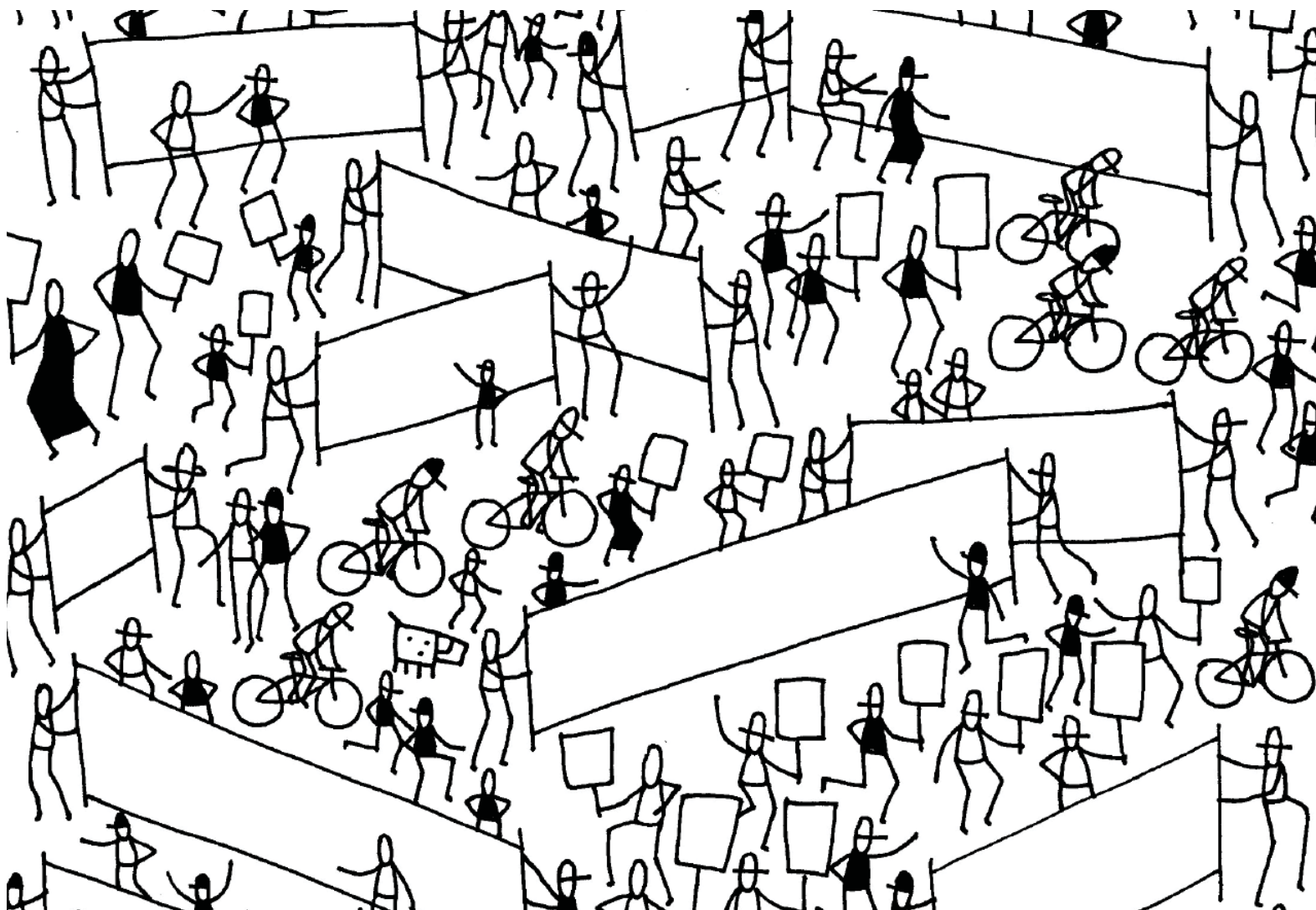
Segment, Segment, Segment!

Fundraising is Friend-Raising!

Thank you, thank you, thank you, thank you!

Ask for specific amounts!

Ask the general public for whatever you can get!



Using this Toolkit: Key Terms and Methods

- **Acquisition:** Getting prospects to give for the first time.
- **Appeal:** Request for support from a prospect or donor.
- **Conversion rate:** Percentage of first-time donors who give again.
- **Database:** A key component of your fundraising systems. Consistent data entry is a building block to develop, maintain, and strengthen appropriate relationships with many donors.
- **Donor:** Broadly defined, a donor is anyone who supports your organization by contribution resources, including time and money.
- **Donor communications:** A key way to enhance relationship with your donor base over time. Every communication should not be only an appeal.
- **Mobile giving:** A fundraising tactic using wireless technology to enable prospects and donors to make donations via cell phone.
- **Prospect:** A potential donor. Prospect research helps you assess whether people might be a good match to pursue.
- **Prospecting ABCs:** “Friend-raising” with specific prospects and donors who have the Ability to support your organization, who Believe in your organization’s cause, and with whom you have Contact.
- **Retention:** Getting donors to give again and again until they donate out of habit.
- **Segmenting:** The process of using your database to make lists of different types of donors, which can help you give each donor the type of attention they want. This helps focus your strategy on donors loyal to the organization, rather than to a person or event.
- **Social media:** The use of online and mobile-based technologies to facilitate connection and dialogue amongst users. Popular social networks include Facebook, Twitter, and Youtube. Can be effectively harnessed to integrate into fundraising strategy and campaigns.
- **Upgrade:** Getting donors to give more than they gave before, and move from “habitual” to “thoughtful” donors. Almost always through personal asks.

Fundraising = Friend-Raising

“We appreciate all gifts and all motives for giving. But our best chance of getting a donation year in and year out is by building a relationship with the donor—a relationship that transcends any of the people currently working for the group and that continues through any number of changes the group may undergo.”

— *Reliable Fundraising in Unreliable Times*

The key to building such relationships is knowing our Prospecting ABCs:

- Ability to give in the way you need (the least important factor in identifying prospects)
- Belief in your cause, or a similar cause (very important criteria)
- Contact with someone in your group who will ask for donations, or is willing to have someone else use their name when asking (the most important of the three criteria).

Who already is on your team that fits these criteria? Build your base of donors using your overall vision (e.g., media justice) and current organizational priorities (e.g., advancing a campaign, expanding grassroots leadership. Prioritize your strongest ABC supporters, and brainstorm who you can ask to connect you with other donors who fit your ABCs:

1. Who's most passionate about your organization? Brainstorm 20 specific people who would be upset if you had to close. Are they donors? Members? Leaders? Board members? Campaign allies?
2. Who also cares about your organization, though maybe not as much as the first group? Again, brainstorm 20 people and who they are.
3. Who supports you more casually? Again, brainstorm 20 people and who they are.

Sample Prospect List:

Name of Prospect	Contact Who in your organization knows this prospect?	Belief How do you know they care?	Ability What specific amount will you ask for?	Who Will Ask Should their contact ask, or someone else who use their contact's name?

Building Your Volunteer Fundraising Team

Building a base of donors who volunteer time takes patience—just as with building a base of financial supporters—and recruiting volunteers is critical to the success of your grassroots fundraising. Some questions to consider as you build your team:

- How will you set up a culture and system of fundraising that supports and empowers volunteers to engage, take leadership, and be reliable and accountable? What motivational barriers might you account for to move more members, leaders, staff, and board toward enthusiasm and community building around fundraising.
- How can you best support the development staff, or whoever is managing the grassroots fundraising plans and coordinating the fundraising team? Do they have the physical space and access to materials they need? Does the organizational culture understand and support their work plan? What else is needed?
- What do you actually need volunteers to do? Identify needs and make a timeline of when those needs will arise.
- Who can actually help you meet those needs? What specific skills do your contacts have? As with asking donors who give money, ask volunteers for a specific amount of time, or a specific activity, for a specific purpose/goal.

Key Tactics to Consider for Your Grassroots Fundraising

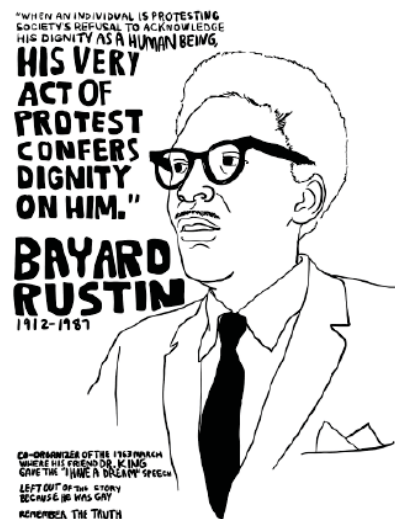
Here are some key fundraising tactics to consider integrating into your fundraising campaigns and overall capacity building.

Tactic	Outcomes and Considerations	Lead Time	Financial Cost
Face-to-Face Ask	50% say yes. Definitely supports personal connection.	Days to couple months. Includes inviting prospect or donor to meet.	Perhaps coffee or tea, perhaps staff time, etc.
Phone Call or Phone Bank	20–25% if personal call; 15% if call to current donor from unknown caller; 5% otherwise. Great second option for donors hard to visit.	Days to weeks. Includes preparing call list, rap, and call record; coordinating volunteers.	Food for mailing party, staff time to coordinate planning and volunteers.
Email	10-20% if personal email and asker knows prospect personally; .5-1% if blasted to new prospects. Easier to reach many people. Can be easy to ignore. Great way to drive traffic to website.	Hours to weeks. Includes drafting and revising copy.	Perhaps monthly email blast or per-email fee, staff time.
Direct Mail	Use to acquire or retain donors. 10% if current donors; 0.5-1% otherwise. Personal note makes a big difference!	Weeks to couple months. Includes drafting and revising copy, printing, mailing.	Paper and printing, food for mailing party, staff time to coordinate planning and volunteers.
Social Media	Can become viral and reach donors' networks' networks. If consistently in dialogue, can support ongoing donor engagement. Can come across as impersonal if not done well.	Minutes. Includes ongoing listening and response to followers and fans, as well as adapting messaging to medium.	Staff time to monitor, review, contribute.
Special Events	Generates publicity; raises visibility. Supports relationship, community building. Can be great way to introduce prospects to work.	Months. Includes lots of staff time to coordinate planning, logistics, and events committee.	Front money for event space, food, performers, etc., and staff time to coordinate planning and volunteers.

Head, Heart, and Hands: Mapping Your Collective Fundraising Body (Assessment Part 1)

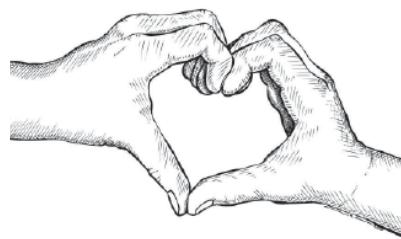
Before you take these learnings back to your organization and your work on the ground, take some time to do a big-picture reflection on how you are moving together when it comes to grassroots fundraising.

HEAD: What does your organization already know about grassroots fundraising?



HEART: How does your group feel about money and grassroots fundraising?

HANDS: How does your group relate to money and grassroots fundraising? Which grassroots fundraising practices are you and your organization already enacting well?



Identifying Where to Focus Your Fundraising Resources and Time (Assessment Part 2)

Use this assessment to decide where to focus your organization's fundraising resources and time. For each question, identify where you currently land on a scale from 1 to 5, with 1 meaning, "Not at all," and 5 meaning, "Completely."

Fundraising Goals

- ☐ We have a fundraising plan broken down to specific goals based on program plans and budget.
- ☐ We have a fundraising goal, which we could express as follows: we need to raise \$ _____ in _____ period of time to accomplish. All staff are aware of the fundraising goal.
- ☐ All staff know how much we still need to meet the goal.
- ☐ All board members are aware of our fundraising goal.
- ☐ At least once a month, all board members are informed of how much we still need to raise to meet the goal.
- ☐ Fundraising goals and progress are visible in office via thermometer or other representation.

Fundraising goals total: _____ .

Fundraising Strategies

- ☐ Based on our fundraising philosophy, our fundraising plan calls for expanding (or creating, then expanding) a broad base of individual donors (if not so, skip the next question and move to #3).
- ☐ Our strategies are all chosen because they either acquire donors, retain donors, or upgrade donors.
- ☐ Our strategies are evaluated at regular intervals to ensure they're performing adequately.
- ☐ Fundraising staff and key board members and volunteers understand the function of each strategy of our fundraising plan.

Fundraising goals total: _____ .

Donor Communications

- ☐ Donors receive information (newsletter, action alert, e-news) at least three times a year.
- ☐ Staff, board, and volunteers feel confident telling people to check your website to learn more about your org or to keep updated on programs, projects, fundraising.
- ☐ All donors receive a personal note or phone call or a personalized appeal at least once a year.
- ☐ Thank you notes are mailed as timely as possible, usually 48 hours to a week after receipt of gift.
- ☐ Subtract 3 points if you only thank larger donors.
- ☐ Subtract 5 points if you don't send thank you notes at all.

Donor communications total: _____ .

"Back Office" Functions

- ☐ You have a database you like, and at least two staff people (paid or volunteer) who know how to use it.
- ☐ You back up data at least two times a week, and daily if you enter data every day.
- ☐ You store your backup data on a website or disk drive not in office.
- ☐ You have a reason for keeping someone on your mailing list who isn't a donor (other than "outreach" or "maybe they'll give some day")—and that reason is recorded.
- ☐ You have systems in place to keep track of responses to mail appeals, newsletters, renewal mailings, and all other requests.

"Back Office" functions total: _____ .

Building fully aligned, thriving grassroots fundraising cultures, practices, and systems take a lot of care and tending. This evaluation helps your organization identify priorities. Within your current capacity and resources, be realistic as you create your work plan. Even if you can only take one or two actions a week, what should your priorities be? Make a plan to continue this vital work until you have an integrated practice and system across your fundraising body.

Assessment Scoring:

Fundraising Goals:

35-30: Right on track!
29-25: Needs more support when available.
24-20: Needs to be prioritized.
20 or below: Urgent attention needed now.

Fundraising Strategies:

20-17: Right on track!
16-12: Needs more support when available.
11-7: Needs to be prioritized.
6 or below: Urgent attention needed now.

Donor Communications:

20-17: Right on track!
6-12: Needs more support when available.
11-7: Needs to be prioritized.
6 or below: Urgent attention needed now.

“Back Office” Functions:

25-20: Right on track!
19-15: Needs more support when available.
14-10: Needs to be prioritized.
9 or below: Urgent attention needed now.

You Can Do This! Fundraising Campaign Planning Worksheet

As you plan specific fundraising campaigns or activities, and/or make your overall fund development plan, use this worksheet to identify the appropriate strategies, scope of the campaign, and tools to reach specific audiences and goals.

1. What are your priority organizational goals? For instance, advancing a specific campaign or collaboration? Developing new or existing leaders? Membership drives? Developing the somatic competency of organizational leadership? Positioning the organization to lead national policy? Integrating a new (i.e. environmental, prison, migrant, gender, disability) justice framework?
2. What are your current fundraising priorities? For example, are you primarily trying to acquire, retain, and/or upgrade donors? How many? And are you primarily strengthening fundraising infrastructure, or practicing in the areas of “back office” function, donor communications, fundraising goals, and/or fundraising strategies?
3. What other campaigns or activities are already in place or being planned, and how much of your annual budget will they require? What is your specific fundraising goal for this campaign? (e.g., \$5000 or \$50,000).
4. What strategies will best support your goals and priorities in the above three questions? How can you best integrate fundraising with program plans? As when planning a communications campaign, consider which audiences you need to build through this campaign in order to meet your primary organizational goals and fundraising priorities. How much will each cost/earn? How many volunteers and how much time does each require?
5. What capacity and resources do you have? Do you already have an active volunteer fundraising team? Realistically, how many volunteers can you acquire and/or coordinate for this campaign? Based on your responses, are there strategies listed above that fit better than others?

Acknowledgments

“Understanding Your Relationship to Money” adapted from exercise from Women’s Initiative for Self Employment curriculum

Some definitions from “Using This Toolkit,” and key concepts and offerings from “Fundraising = Friend-Raising,” “Building Your Volunteer Fundraising Team,” and, “Identifying Where to Focus Your Fundraising Resources and Time,” were adapted from *Fundraising for Social Change and Reliable Fundraising in Unreliable Times*

“Identifying Where to Focus Your Fundraising Resources and Time” and the image from “Grassroots Fundraising: What’s the Point?” were adapted from a Creative Commons image by Tom Civil.

Outcomes for “Key Tactics to Consider for Your Grassroots Fundraising” are from the “Grassroots Fundraising Strategy Chart” by Mimi Ho, adapted from “Choosing the Right Fundraising Strategy,” by Kim Klein and Stephanie Roth, *Grassroots Fundraising Journal*, Vol. 18, no. 3, June 1999.

Images of Bayard Rustin and the heart and hands from “Head, Heart, and Hands! Mapping Your Collective Fundraising Body,” were adapted from Creative Commons images from Ari Moore, Irishk, and Zeke Sikelianos.

Resources

Fundraising for Social Change

GIFT Training for Trainers Manual

Giving USA, 2011

Grassroots Fundraising Journal

Reliable Fundraising in Unreliable Times



<http://www.grassrootsfundraising.org>

GIFT's Political Framework

GIFT is deeply grounded in social justice values. We see grassroots fundraising as an essential strategy when working against all forms of oppression, and toward justice and liberation of all people. Fundraising is political, and is a form of organizing and movement-building. As an organization working for social justice, we try to be intentional about where our funding comes from and take into account how the way we generate resources impacts our work. Our intention is to inspire through example and to provide training for other organizations that are part of social justice movements so that they, too, can implement and strengthen their own grassroots fundraising strategies that are grounded in social justice values.

We believe that grassroots fundraising has a central role in helping us think critically about how different forms of oppression based on race, gender, sexuality, class, ability, nationality, age, wealth and power intersect and sustain each other and have historically created the inequalities that we still face today. We see oppression as structural and systemic in that it is through different institutions, norms, beliefs, expectations, stereotypes and misconceptions that some people are marginalized while others are in power and possess privilege. The power of giving, however, belongs to everyone regardless of our identities and location. In order to build sustainable strategies for social change and a broad base of support, we need to work towards building greater participation from individuals, for both financial and political reasons. We are a people of color-led multiracial organization and we work in partnership with white allies who stand with us against all forms of oppression, including white supremacy.

Here is GIFT's vision for social justice-focused, grassroots fundraising. We understand that different organizations and configurations are faced with a myriad of challenges, including financial dependency on foundations, an economy that continues to widen the divide between the rich and the poor, and increased demands on private donations to support public services. We acknowledge that there are different stages towards self-determination and independence and that the process of gaining the support of individuals is an ongoing one. We empathize with organizations that are facing challenges and we recognize that we have our

own. As an organization, we are in the ongoing process of building a stronger base of donors that will guarantee our sustainability.

We offer this as our vision for social justice grassroots fundraising and what we ourselves strive for:

1. Social justice organizations are owned by the communities they serve.

The financial support of an organization or movement is a key indicator of an organization's relevance to its stated constituency. This means that the community, including the individuals in that community, provides significant support to the organization in the form of monetary and other contributions. The community supports the organization's program and budget. In turn, the organization is accountable to the community and serves the community's needs. Ownership also means that people of color and low-income people have roles in the paid and unpaid leadership of the organization, including financial management and fundraising.

2. Social justice organizations break down stereotypes about who can give and who can't, and ask everyone in their community to become donors.

Financial contributions to organizations are made by people of ALL income levels, races, classes, ages, ethnic groups, education levels, backgrounds, sexualities and genders. A variety of people donate to support issues they care about, and we all have a role to play in providing resources towards social change. Donors and gifts of all levels should be valued for both their financial impact, as well as the political power of having large numbers of people showing their support for an organization.

3. People of color committed to social justice values and with an understanding of structural oppression are in leadership positions in fundraising.

We believe that those who control the money in an organization, including the processes of raising it, ultimately have more power in the organization. People of color are grossly under-represented as fundraisers, even among social justice organizations. In order to achieve true racial and social justice, people of color invested in an analysis of power and privilege, need to be as involved in fundraising as they are in other key areas of an organization's work. An analysis of power and privilege for GIFT means that internalized and external oppression and marginalization concentrate resources, opportunity, and decision-making in communities with the most privilege based on race, gender, sexuality, class, ability, nationality, age and access while disenfranchising those with the least.

4. Social justice organizations have self-determination and are accountable to the communities they come from, regardless of their funding sources.

Most money given to nonprofits comes from individuals, not from foundations and

corporations. We understand that foundation grants can provide helpful infusions of money, but we believe that foundation grants are not essential to accomplishing social justice work and should not be overly-relied upon. Organizations should be able to make their own decisions and do the work they choose without being afraid of losing foundation money. Private foundations are generally not accountable to the communities they fund and do not always understand the needs of such communities, often rewarding organizations that are politically moderate and in some cases pressuring organizations to become politically moderate. Corporate giving is motivated by publicity and actions that will generate more profits for the corporation, not community needs. We believe that support from individual donors sustain and are fundamental for an organization's survival.

5. Fundraising, program, and organizing are interconnected and interdependent.

When all aspects of an organization are integrated and fundraising and programmatic work are connected and inform each other, organizations are much stronger in all areas of their work. This also means that fundraising is considered a shared responsibility between all staff, board, members, and volunteers.

6. A culture of sustainability is prioritized within social justice organizations.

Fundraiser turnover, burnout and isolation are common in social justice organizations. Fundraisers often bear significant responsibility with little authority or involvement in other areas of the organization, and, at best, are stigmatized as doing the work no one else wants to do, or, at worst, doing the work that is considered antithetical to social justice. In order for leaders of color and social justice leaders to remain in grassroots fundraising and thrive, organizations must prioritize care and sustainability, show appreciation for fundraisers, and strive to provide a life-work balance.



The Edible Schoolyard Curriculum Overview

Introduction

For the last 20 years, the Edible Schoolyard in Berkeley, CA, has been a place where the children fall in love with food and learning. In the kitchen classroom, the teachers cook, the cooks teach, and teacher and student alike gather around the table to share meals of their own creation. In the garden, students are the keepers of the soil and shepherds of the harvest, sowing seeds and tending to the produce that fills bellies and fuels exploration, imagination, and learning. Students learn by doing and engage all of their senses.

Inspired by innovative ideas in school reform, creative theories in child development, and pioneering educational philosophies (from the approaches of Montessori to Dewey to Reggio Emilia to Maslow, Piaget, Vygotsky, and Gardner), our model is rooted in inviting the whole child to engage with the world as a classroom with infinite potential for discovery and growth. We believe that integrating an edible education curriculum into all schools can transform the schooling experience for every child in the United States, and that doing so would be revolutionary. The Edible Schoolyard Project envisions gardens and kitchens as interactive classrooms for all academic subjects and a free, delicious, organic, and local lunch for every student.

To that end, the goal of this book is to share our theory and practice of how to transform the schooling experience for every student. At the heart of our approach is our curriculum; it is our main tool for bringing the vision of edible education to life in the classroom. In this book, we have shared the theory behind our approach, the strategies and practices we use in implementation, and the lessons we teach in our kitchen and garden classrooms. It is our belief that any garden or kitchen classroom should reflect the unique needs, resources, and culture of a place. It is not our goal to create programs identical to the Edible Schoolyard in Berkeley—these lessons are meant to be instructive, adaptable, and flexible.

What Is an Edible Education?

Our principles of edible education lay out the transdisciplinary pedagogy of our whole-child—and whole-school—approach to equity and learning in kitchens, gardens, lunchrooms, and classrooms.



1. Food is the perfect teacher. Every discipline—math, science, the humanities—comes to life in the learning laboratory of a garden or kitchen classroom. In the lunchroom, teachers and cooks alike use daily meals to feed students' minds as well as their bodies.
2. Children learn by doing. The hands-on experience of growing and preparing food teaches students the value of real work, collaboration, and caretaking. Social responsibility and stewardship become deeply personal, and students feel empowered.
3. Children learn with all their senses. When children's senses are awakened and educated—and they can taste, smell, touch, hear, see—they experience the world around them with new richness and complexity.
4. Children thrive in nature. When children grow food, cook, eat together, and return nutrients to the soil, they come to respect and appreciate their interconnectedness with the cycles of life.
5. Good food is a right, not a privilege. When public schools make a free, delicious, organic school lunch for every student, we not only address the critical social inequities of hunger and obesity, we truly nourish every child.
6. Schools and sustainable farms support each other. A sustainable set of criteria for buying school food means investing in the local economy and community. This reinforces children's understanding of where their food comes from and how important it is for human beings to take care of the land, for the future of the planet.
7. The cafeteria is the heart of the school. Every day, students discover how the ritual of eating together at the table expresses the essential values of nourishment, stewardship, and communication.
8. Beauty is a language of care. Beauty communicates to students that we value them. An environment where careful thought has gone into everything, from the colors on the walls to the plates on the tables, communicates to children the practice of noticing and cultivating beauty in their lives and the world. They feel valued and understand what it means to give others that gift.



The Edible Schoolyard History

The US primary and secondary educational system has been ideologically extolled throughout history, and admired the world over, for its potential to create equal opportunity for all young people. Educational opportunity is often cited as a cornerstone of this country's democratic strength and resilience.

At the same time, it has been a persistent challenge for our nation to live up to the noble ideals enshrined in this educational pledge, especially (though not only) in our public schools. We have struggled, often valiantly, to make these promises a reality, but continue to fall too far short of universally achieving them. If we are to make true progress, we must face the ways in which the US educational system has maintained a stratification of students on the basis of class, race, and gender.

From Thomas Jefferson's 1814 proposal for two different tracks to educate the "laboring and the learned" to the institution of "zero tolerance policies" in the last two decades and the resulting school-to-prison pipeline, our educational system has not only failed to live up to the promises of a just democracy, it has effectively targeted for failure and marginalized specific communities and groups. Once institutionalized, gross racial and socioeconomic disparities in education, health, and opportunity have been often viewed as inevitable, greatly bemoaned but also widely condoned.

Twenty years ago, in 1995, Alice Waters created the Edible Schoolyard Project to address our educational system's failure, in Waters's words, to "make our schools the place of equality." Waters brought to her mission the dual perspective of a trained Montessori teacher and fervent political activist—along with an already renowned reputation as a gifted chef and champion of sustainable agriculture. She grounded her vision in first principles: that children deserve to be nurtured in body and mind, treated with dignity, and shown that they are valued.

Waters proposed the creation of a school-based program, fully integrated with the academic curriculum taught in US public schools, that would begin by serving the most basic needs of children, their families, and their communities. Her idea was simple, and profound: awaken children's senses and appetites, invite them into a relationship with fresh, flavorful, healthy foods, and connect their academic studies with the natural world in garden and kitchen classrooms. Make every detail important, she added, emphasizing respect for the children's surroundings. In such



environments, they would instinctively feel welcome and want to learn—and they would develop confidence in their abilities and their futures.

Waters founded the first Edible Schoolyard at the Martin Luther King Jr. Middle School, in her hometown of Berkeley, CA, in close partnership with the principal and members of the school community. Over time, she took to calling her vision for all schools “edible education.”

Between 2005 and 2010, the Edible Schoolyard Project identified locations for and co-created six other “Founding Edible Schoolyards,” in New Orleans; San Francisco; Los Angeles; Greensboro, NC; New York City; and Lake Placid, NY—with the goal of demonstrating that edible education is a universal idea, applicable and adaptable to any community, climate, or set of circumstances.

The results have been transformational for Edible Schoolyard Project students and communities. When schools nourish health and social well-being in tandem with academic goals, and when they extend their mission to include families and the wider community, we see that students respond and excel across a spectrum of criteria. Moreover, they become leading agents of change: they take on the challenges of addressing—even repairing—inequality in their communities and, in broader terms, understanding the critical relationship between human beings and the natural world.

The Edible Schoolyard Project is dedicated to modeling success through daily on-site practice of the pedagogy and through strong advocacy for edible education for all. At the same time, we work to highlight the failures and injustices that prevail in our educational system—recognizing that we ourselves are operating within and are part of that system. We are committed to continually deepening our awareness and analysis of our own organizational privilege and particular visibility in this field, and to reflecting on how we lead and support the capacity development of others, with an emphasis on humility, curiosity, openness, and reciprocity.

In the summer of 2009, the Edible Schoolyard Project held the first Edible Schoolyard Academy, to train educators in the theory and practice of edible education. The ESY Academy is now the leading professional development and capacity-building program in its field. In 2012, we launched the online Edible Schoolyard Network, to engage, unite, and represent edible education programs



around the country and the world. In that first year, 500 programs joined the free ESY community hub, which has since grown tenfold, to more than 5,500, galvanizing edible education leaders as a critical force for movement-led change.

Current Program Areas of the Edible Schoolyard Project

The three main programs of the Edible Schoolyard Project embody and cultivate our mission: ensuring an edible education for every child in public school.

Edible Schoolyard Berkeley—The garden, kitchen, and cafeteria at King Middle School serve as a demonstration site and innovation hub for the edible education curriculum and pedagogy. For 20 years, we have worked closely with the whole school community to connect a one-acre teaching garden and a dedicated kitchen classroom to the science and humanities curricula taught to all students. Evening family classes invite parents and trusted adults to learn with and from their students. Across the playground, the larger cafeteria kitchen prepares delicious school meals from scratch for all public school students in Berkeley, using fresh, local, seasonal ingredients. More than 1,500 visitors tour the program every year to learn by example. Many of these visitors return to attend an Academy session and/or go on to launch a program in their community and link it to the ESY Network. ESYB has nine full-time staff and one AmeriCorps service member. Three staff and our AmeriCorps member work in the garden, four staff in the kitchen, and two staff in the office. Kitchen and garden staff are responsible for planning and teaching daily classes, maintaining the kitchen and garden spaces, managing volunteers, developing and documenting curriculum, and running our Family Nights Out program, our High School Internship program, and our 8th grade IWE (Independent Work Experience) program. In addition to our school-year programming, all ESYB staff collaborate to plan and facilitate the ESY Academy and ESY Intensive, two professional training programs we offer each summer for educators, service workers, and administrators in the field of edible education.

Edible Schoolyard Trainings—In our summer professional development programs and short courses, we empower other educators to create and sustain similar programs in their home communities. Our goal is to help schools develop strong edible education programs rooted in shared values and standards of practice, responsive to the cultural, institutional, and funding realities of their own particular contexts. In eight years, we have trained 580 teachers, administrators,



food service staff, nutritionists, and parents from over 250 schools worldwide, representing more than 780,000 students in 39 US states.

Edible Schoolyard Network—The ESY Network at edibleschoolyard.org is a thriving public forum for the edible education movement, a community hub where teachers, parents, school administrators, cooks, sustainability advocates, education-oriented nonprofits, community farmers, and others come together to swap ideas, resources, and inspiration. On the ESY Network site, you can find a simple and delicious recipe called Greens over Grains and instructions for worm-bin composting. You can find lesson plans that integrate multiplication with gardening or teach the history of the spice trade accompanied by cooking curry. Many lessons are aligned with Common Core and Next Generation Science Standards. All resources are community-generated and available for free. Network membership has grown by thousands each year since its 2012 launch, suggesting we have tapped into a wellspring of energy that will continue to build momentum. Today, over 5,500 programs belong to the Network, from 50 US states and 57 countries, serving more than nine million students.

King Middle School and Edible Schoolyard Program Overview

The Edible Schoolyard kitchen and garden classrooms are located at King Middle School, one of three public middle schools in Berkeley, CA. Some 1,050 students in grades 6, 7, and 8 attend King Middle School; all of them attend classes at the Edible Schoolyard each year. Students at King come to the kitchen and garden as an integral part of their academic school day. In general, students come to the kitchen with their humanities classes and to the garden with their science classes, though occasionally they may come with math, art, or elective classes as well. Over the course of three years at King, a student will have 75 classes in the garden and kitchen classrooms. Of King's 1,050 students, 45% qualify for free or reduced lunch, 13% are enrolled in the English-language development program, 13% have special needs, and 35% are White, 21% Black, 21% Asian, and 15% are mixed race or "other."



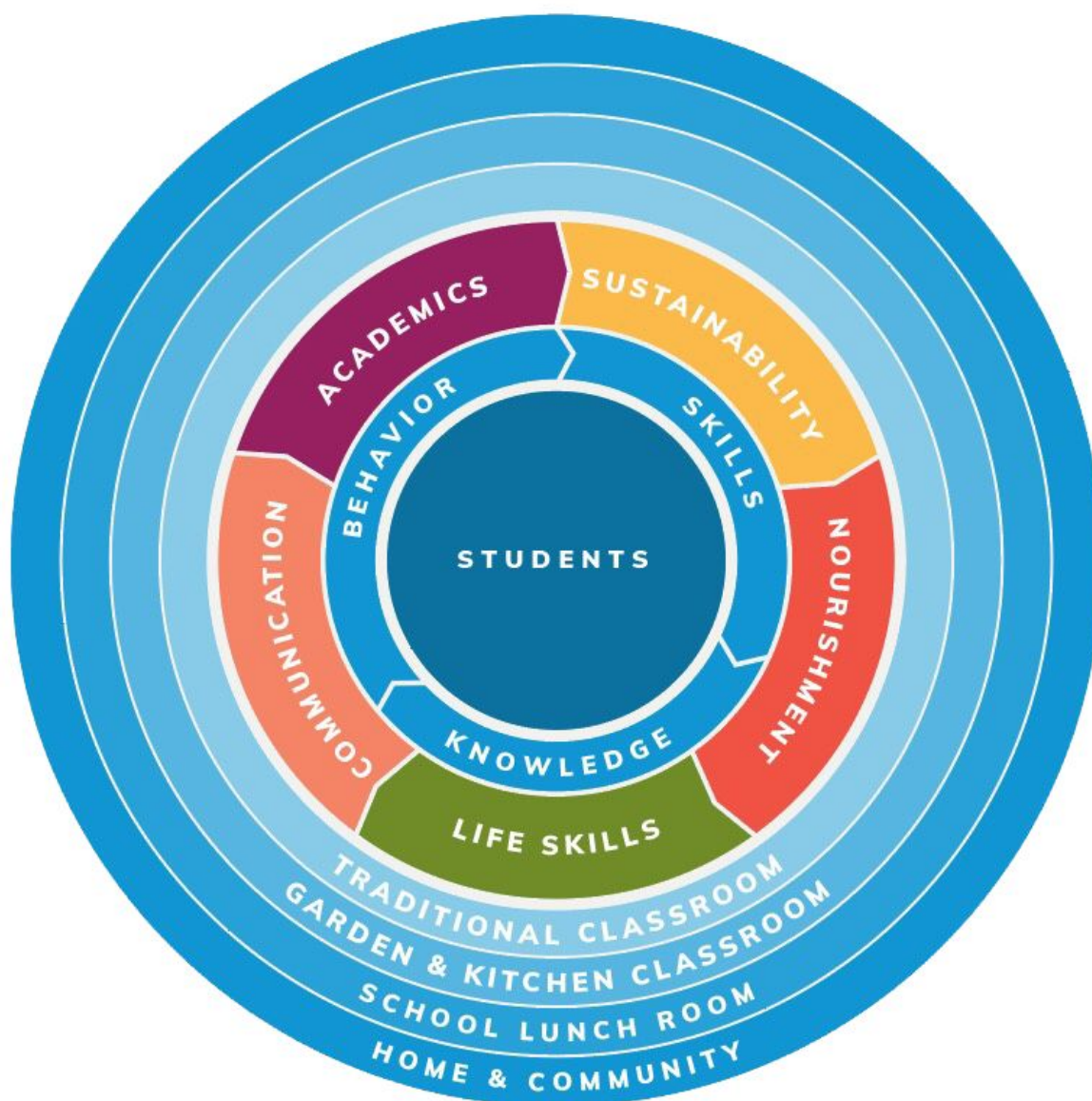
The Edible Schoolyard Curriculum

Our curriculum is where our theory of edible education comes to life; the content of our lessons and how we teach them comprise our main strategies for implementing our theory of edible education in the classroom. At ESY Berkeley, we have piloted and tested lessons and best practices for over 20 years. All of our work—and the reasoning behind it—is posted online for the Edible Schoolyard Network community and shared in our ESY Trainings. We have designed our curriculum for middle school students to meet the edible education learning goals outlined in the Edible Education Framework. The Edible Education Framework serves as a guide to translate the theory into practice.



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.





Central to the theory of edible education is that all learning is integrated. The skills, behaviors, and knowledge that students learn while cooking support their academic learning, while an “aha” moment in the academic classroom inspires their work in the garden; the propagation work from the greenhouse gives them the patience and focus they draw on while practicing violin later on, which serves as a touchstone for the power of persistent practice that allows them to master that new knife skill and to finally get the quadratic equation after hours of practice problems, and around and around. This curriculum makes intentional academic connections that allow a student’s full learning experience at school to become more relevant and engaging, and supports their academic achievement by bringing academic subjects to life. Even more broadly, this curriculum aims to develop curious, engaged learners who demonstrate: a sense of curiosity and dignity; the ability to work as a team to complete a job well; respect for oneself and others; an appreciation for diversity and an ability to learn from differences; and an understanding of how engaging with the food we eat can teach us, crystallize connections between anyone and anything, and cultivate relationships that make our families and communities resilient.

We hope these lessons prove helpful tools to you as you work to bring your own vision, whatever that may be, to life in your community.



Philosophy and Pedagogy for Equity

Equity is both a means and an end in edible education. Edible education holds unique possibility to address a number of student needs that are not met or reflected in traditional curriculum or pedagogical practice. This is particularly important for engaging students who face systemic marginalization or who may be coping with trauma. The ever-present stresses of poverty, poor health, hunger, social isolation, discrimination, and violence can obstruct a child's focus on school, making it even harder to thrive in a traditional classroom setting. Edible education connects the experience of school to the real, lived experiences of our students.

A decade of social science research demonstrates that, overall, garden and kitchen programs improve a sense of belonging at school, nurture positive relationships with teachers and trusted adults, boost motivation and sense of satisfaction, and improve physical and emotional health. Studies at our flagship program in Berkeley found that edible education produced significant gains in the development of a cooperative school culture, increased academic engagement, improved students' sense of belonging in their school community, and increased consumption of healthy foods. Each of these outcomes is crucially important to our work to build a more equitable world.

In working for equity in the classroom, student experience is at the center of every decision we make. We intentionally design our classroom environments to communicate to children of every background that they belong and that they have been considered when creating the space—the crops we plant, the recipes we cook, and the artwork on the walls depict a wide range of cultures and food traditions. The rewards of gardening, cooking, and eating are accessible and inclusive, and we ensure that our lessons and our pedagogy draw upon and promote the range of strengths of all different kinds of learners: visual and physical, independent and collaborative, in quiet repetition and in noisy activity.

In addition to making our spaces and lesson plans inclusive, we believe that a student's experience is critically important to their ability to learn. When students feel safe, happy, seen, respected, and excited about their work, they engage and learn much more fully (and the converse is true as well—a student who feels unhappy, insecure, or alienated faces many more challenges in successfully reaching learning goals). When planning a lesson or developing our curriculum,



articulating how we want students to feel in the space is as important as defining our learning objectives or developing lesson content. This does not mean that discomfort has no place in our classrooms—we believe that taking risks is a vital part of development, that making mistakes and having the opportunity to get hurt in small ways are the foundation of keeping us safe later in life. But at every step of the way, our approach aims to make sure that everyone involved—teachers, students, and volunteers alike—get the most out of their time together through building a strong classroom culture based on collaboration, mutual respect, and equity.

We find that active culture-building in our classrooms also serves as an answer to what often is portrayed as one of teaching's most vexing challenges: behavior management. In our experience, building a strong classroom culture could be compared to practicing preventative medicine as opposed to waiting until a health issue has progressed far enough that it requires more drastic measures. On one hand, students who feel safe, happy, seen, respected, and engaged tend to reciprocate in kind, treating the people and things with which they share the space with respect. On the other, when conflicts arise, which they inevitably will, the practices used to build the culture form a foundation of trust and communication that prove invaluable to the conflict's resolution. Of course, this too becomes an approach to equity—when a classroom culture is able to disrupt traditional dynamics that too often identify students of color, especially boys, as having “behavioral issues,” everyone in the classroom community benefits.



Practices of Edible Education

The following is an overview of the foundational practices of our work—the most important strategies we have identified for translating our theory of edible education into a living experience for our students. Most of these practices are not explicitly represented in the lesson plans that follow, but are nonetheless foundational to every student experience at the Edible Schoolyard Berkeley—whether during a class, a quick visit after school, or at an evening family engagement class.

Building a strong classroom culture is the foundation of all our practices. It begins with identifying how we want our students to feel while they are in our classrooms. From there, we engage specific practices to meet those goals.

How we want our students to feel:

- I can do this.
- My presence and contributions matter and are appreciated.
- I feel safe.
- I have ownership of my body and voice.
- I know how I can be successful in this space; the people here want me to succeed and will support me in doing so.
- I feel welcomed, cared for, and respected.
- I am acknowledged, I am seen, and I belong here.
- I can be myself.
- My voice and opinion matter and are respected.
- The space, people, and structures are fair to me.
- I have the ability to grow and develop my skills, knowledge, and abilities through effort and practice.
- It is okay not to know.
- When I encounter a problem, don't know something, or feel unsure, I know how to get the support I need to figure it out.

How we meet these goals:

1. Invite students to show up as their full selves in the classroom and let them know that their presence and contributions are appreciated.

- Greet every student at the door as they enter the classroom.
- Interact with every student one-on-one in each class.
- Talk to students with respect and kindness.
- Meet students where they are. Help students find space and time to process whatever they are bringing into the classroom. Support them in practicing self-awareness around this need and the strategies they



can use to address it.

- Foster a “culture of yes”: Think twice before answering “no” to a question and see if there is a way to accommodate a student’s request.
- Feature crops, recipes, tools, artwork, and other objects from many cultures in the physical space.
- “Don’t yuck my yum”: Don’t put down or deride things that other people like. Support students to do the same.
- Avoid commenting on students’ eating habits (e.g. “Wow, you just inhaled that plate!”) and support students in doing the same.
- When a student says they don’t want to try a food, insist on serving a very small “no thank you” portion so they have the opportunity to try it if they change their mind, but do not insist that they try it.
- Serve up food with the stated goal of fairness and ask students to help you in achieving that.
- Make a positive phone call home to share a student’s successes and achievements in class.
- Appreciate the difference between intent and impact: When conflict arises, recognize that frequently the harm caused was not intended, but that lack of malice does not mean a harm caused is not real. Support students to understand the difference.
- Model curiosity by asking questions: Invite students to share stories, thoughts, or perspectives that matter to them, and listen with curiosity. Support students to do the same. When conflict or friction arises, seek to understand its cause as opposed to making assumptions. Asking questions is an excellent way to promote students’ self-reflection.
- Have fun with the students—learning should be pleasurable!

2. Support every student to succeed with clear, consistent expectations, explicit invitations to engage, and numerous opportunities for success.

- Explicitly name and explain your expectations for student participation, and vary participation protocols—communication norms vary by culture and background. Not every student will have the same assumptions or comfort level with participation protocols often used in classrooms (e.g. one voice, calling on raised hands). Explicitly naming and explaining your expectations helps students to understand how to be successful in the space. Varying participation protocols can create access and promote buy-in for all students.
- Interrupt and explicitly name harmful or unacceptable behavior. Describe clearly what you are seeing and why it is not okay. Base your observations in firsthand experience and use “I” language to root your observations in a shared experience.
- Eliminate barriers to participation by providing gloves, work boots,



aprons, kneepads, and ponchos to students in garden classes and aprons and latex gloves to students in kitchen classes. For students anxious about keeping their hands, shoes, or clothes clean and dry, protective gear gives them the opportunity to participate without having to sacrifice this priority. Similarly, though we ask all students in the kitchen to wear aprons, if this acts as a deal breaker for any student, we never force them to.

- Celebrate and share the unique strengths of each of your students and support students to do the same. Provide opportunities for students to engage in collaborative work in a variety of ways (e.g. group discussion or brainstorm, or independent research with a group report out afterwards). Have students reflect on the contributions of each group member.
- Invest in building relationships with your students. 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.
- Access students' prior knowledge and experience. Soliciting students' existing perceptions of and interactions with your program's content can validate their experiences, teach you 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.
- Build academic language through "Structured Student Talk Time." Display questions—along with frames for possible responses—on clipboards or whiteboards to 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 _____.")
- Collaborate with the people at your school who are already working to support the students facing the greatest challenges at school (e.g. equity team, counselors, English-language development teachers, or the special education department).

3. Model and encourage a belief that intelligence and abilities can grow through effort. This "growth mind-set" contrasts with a "fixed mind-set" that frames qualities like intelligence and talent as fixed traits that cannot be changed and that alone guarantee (or hinder) success.

- Engage students in challenging material and provide them with



frequent opportunities to see and reflect on their own growth by prompting self-reflection and sharing your own observations of their growth.

- Practice giving specific positive feedback related to what students can control (effort, strategies, attitude). E.g. “I really love the focus 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.”
- Give critical feedback on areas students can control based on specific, timely, personal observations. E.g. “I noticed that during that group discussion you had a lot of speaking time and some students didn’t speak at all. Did you notice that?” instead of “You talk too much and should step back so other people can get a chance to participate.”
- Share stories of developing your own skills through persistence, including mistakes and “failed” attempts.

4. Teach to the whole child and a range of learning styles.

- Engage the five senses.
- Make space for art and creativity.
- Use interactive and engaging visual aids and props, or leverage elements of the garden or kitchen environments as illustrative and exciting teaching tools. These visual aids spark curiosity, support content delivery, and provide students with an opportunity to analyze and interpret visual information.
- Try putting 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.
- Structure lessons with the “Learning Cycle” (Invitation -> Exploration -> Concept Invention -> Application -> Reflection) by starting with an invitation to engage in more open-ended exploration before introducing specific content or engaging in “meaning-making.” Once students have explored and made meaning of their experiences, give them an opportunity to apply what they’ve learned. Finish off the lesson with a chance to reflect on their learning to help it stick.
- Reinforce key concepts using multiple media. A combination of dynamic visual aids, interesting written material, group discussions of varying sizes, and hands-on activities gives students several opportunities to grasp and engage with the topic at hand.
- If you work collaboratively with other teachers, explore how your different personalities, interests, skills, and perspectives can enrich the learning experiences you’re able to offer your students.

5. Encourage students to take ownership of their learning through inquiry, exploration, and independence.



- Solicit student choice. Use a process that allows students to choose their gardening or cooking job, or find other ways to incorporate student choice into lessons. Providing students the opportunity to choose establishes mutual trust and builds buy-in, and can be a way for students to develop an awareness of their own and others' interests and needs. Make space for exploration and free time as ways to investigate questions that arose during class, and develop students' ability to remain present and direct their own learning experience in times of independence. Outside of free time, structure open-ended exploration time into your lessons to engage students' curiosity and build observational skills.
- Encourage beneficial risk: Allowing students to engage with adventurous play 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. 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.
- Teach students to use real tools. 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 students to take ownership of the space and inspires buy-in and focus.

6. Provide opportunities for students to collaborate, lead, and develop their voices.

- Make thinking visible. When making decisions, share your thought process so that decisions are seen to be logical and reasoned. Sharing your process with students allows them to develop the higher-level thinking skills, such as awareness of self and others, that we as teachers constantly employ.
- Use discussion routines. Maximize "student talk time" during lessons while helping students to develop their academic vocabulary, evidence-based argumentation, and confidence in public speaking by using discussion protocols that students learn and become familiar with. Some of our favorites are:
 - i. Walk and Talk: Good for transitioning between spaces. Ask students to form two lines and discuss, as they walk, a topic with the person next to them. Upon arriving at the destination, give each pair the chance to share out.
 - ii. Think-Pair-Share: This routine gives students time to silently reflect on a question or prompt, then discuss with a partner, and finally 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.
- iii. Whip-Around: Pose an open-ended question to students, give them a moment to consider their responses, and then whip around the circle, hearing briefly from each student.
 - iv. Lines of Communication: In this activity, students form two lines facing each other. Pose a question to the students, who have an opportunity to share their answers with the person standing across from them. Direct the students in one line to rotate in one direction, thus providing every student with a new conversation partner.
 - v. Poetic Devices: We often use this protocol during tasting activities, asking students to share a simile or metaphor to describe the food they're eating. This activity can be good for any of the five senses.
- Engage in project-based learning. Whether it's building new tables for your greenhouse, designing an art installation, or developing a cooking lesson for younger students, 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.
 - Encourage student leadership. If a student has already worked on a kitchen or garden skill, ask them to teach their peers. For routines that students complete often, 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.
 - Build 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. Help students build a toolbox for learning by providing them with opportunities to develop key academic, scientific, and observational practices. We see the kitchen and garden as dynamic laboratories in which students can develop the skills needed for lifelong critical thinking. We've noticed that providing students with opportunities to make careful observations, conduct investigations, and engage in critical thinking or discussions not only increases their academic skills; it also invites them to



fall in love with food and the natural world.

- Use the “I notice, I wonder, it reminds me of” routine. This practice, from Berkeley’s 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 mind-set 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.
- Build on lessons over multiple classes/grade levels. By referencing a previous experience in the kitchen or 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.
- Use questions to further students’ thinking and prioritize the thought process over the final answer. 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.
- Ask 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).
- Engage 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 kitchen or garden, develop and use a model, or draw from a hands-on or lived experience. Encourage students to evaluate a variety of opinions using respectful conversation skills.

8. Spark student interest by highlighting real-world connections and sharing your passion.

- 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!). Consider ways you can intentionally link food to your lesson's content, so it is more than just an "add-on."
 - Plan for how students will get to interact in any activity. Oftentimes the best learning builds community through fun and memorable shared experiences.
 - Provide learning opportunities unique and authentic to your classroom space. If you are working outdoors, consider whether you could do the activity you are planning indoors. If so, 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. If you are working in a kitchen, make use of everything the space and tools have to offer.
 - Share your own passions, interests, or personal anecdotes to engage students and inspire them to care about lesson content. After sharing about yourself, ask them to share something about themselves.
 - Connect the activity to students' lives and highlight real-world connections. Help students realize the "So what?" by sharing how the content you're learning impacts their lives or shows up in the world at large; link your lessons to current events in your community; 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!



Curriculum Development

Even after 20 years, we are always in a process of reimagining, updating, and creating anew our curriculum. Ongoing engagement with our lessons helps us to stay energized and excited about what we teach, and keeps our students' classroom experiences feeling relevant and important. Continuing to revise our curriculum also engages us in the critically important, on-going dialogue with our central goal of cultivating equity in our classrooms and communities. As the conversations around equity in society as a whole evolve, we are always working to reflect that in our curriculum.

Whenever we develop or edit a lesson, it happens in two parts. First we'll create a draft of the lesson in its entirety. This may happen all at once, or it may happen over the course of a longer period of time; it may happen from scratch, or through editing an existing lesson; it may be collaborative or combine independent thinking and group conversation. Once we have a draft, we review it as a teaching team. While reviewing, we take a fine-tooth comb to every aspect of the lesson—the write-up, the teaching materials, activities, food, recipes, etc.—to make sure it reaches our goals for student learning and student experience. We look to see the lesson is doing what we want it to do (e.g. help students to better understand the greenhouse effect), and not inadvertently doing what we don't want it to do (e.g. make students feel overwhelmed and powerless over the scary impacts of climate change). After this review, we circle back to the lesson draft and revise it to address any issues identified in the review. This cycle of revision may happen once or many times.

When we feel a lesson is ready to teach, we try it out. Inevitably, this surfaces new considerations. We address what we can right away and record what we can't address immediately for the following year. Many of these considerations are captured in the "Teaching Notes" sections of our lesson write-ups. Overall, we aim to create curriculum as dynamic as the content we teach and the spaces we teach in. Below, we've outlined a rough guide to our curriculum development process. Our goal is to provide you with suggestions and tools that you may draw from to use in your own program, and also to provide context for the development of each of the lessons that follow.



Lesson Development

1. Identify and define lesson goals

The first step when we create new a lesson or edit an existing one is to define the lesson's overarching goals. These goals may be skill-based (e.g. to develop students' knife skills, or to help students practice working as a team), they may be thematic (i.e. to engage students on the intersection of food choices and environmental issues, or to explore agricultural techniques used by historical civilizations of the Americas), they may be related to how we work (e.g. to support our upcoming plant sale, or to increase buy-in and facilitate collaboration with math teachers), or they may be a combination of the three. Some of our lessons develop from one major goal, but most begin with two or three.

In almost every case, lesson goals arise from where the lesson is in the overall scope and sequence of our students' experience in the kitchen and garden classrooms and their academic classrooms. This often means collaborating with academic classroom teachers to generate lesson goals that coincide with or support students' academic learning on specific topics or themes—we seek their input wherever possible because it helps inform how we can best support the overall learning of our students. Every lesson also has at least one goal stemming from the arc of students' development of knowledge, skills, and behaviors unique to our kitchen and garden classrooms. For example, whenever we build or revise a seventh-grade lesson for our kitchen classroom, we do so with an eye towards the final seventh-grade lesson of the year: Iron Chef. In the Iron Chef challenge, table groups work together—without adult assistance—to plan and prepare a meal based on a set of surprise ingredients. This lesson demands a high level of collaboration and independence from the students, as well as a mastery of basic cooking skills and techniques. In order to prepare students to enjoy and feel successful with this challenge, we specifically design the seventh-grade lessons leading up to Iron Chef to support their development of these skills. This same thinking is applied for all of our lessons, both in the kitchen and in the garden.

In addition to supporting a more cohesive student experience, defining these broad lesson goals is crucial to facilitating successful and efficient collaborative lesson development. They focus our efforts as we move forward and allow us to be flexible in designing the specifics of our collaboration process—with the lesson goals as touchstones, we may delegate much of the lesson design process to just one or two people or choose to craft in group discussion, infinitely more efficient and creative with everyone on the same page.



2. Develop student learning objectives

Student learning objectives translate lesson goals into student experience: What do you want your students to get out of this lesson? What knowledge, skills, behaviors, or other learning should they have leaving your classroom that they didn't have when they arrived? Learning objectives should be specific, attainable, measurable, and important. Just as our overarching goals for a lesson often look quite different between lessons - while one lesson may be built to facilitate student learning on the scientific process, another may originate with a desire to strengthen collaboration between the art department and the kitchen classroom - student learning objectives vary greatly across our lessons. Sometimes learning objectives may be developed entirely from the lesson goals. Often, however, they are refined and made more specific in conjunction with the next step in our process: choosing the food, crop, or activity that the students will engage with.

3. Consider your food, crop, or activity

With the overarching goals and specific learning objectives defined, our next step is to dive into the food, crop, or activity: What will the students do or experience to reach the learning objectives and for the lesson goals to be met?

In the kitchen, this means choosing a recipe. Some key considerations when choosing what to cook with students are:

- *What is in season?* Ideally, every recipe we make includes at least one ingredient that comes directly out of our garden.
- *How much time do we have?* The most exciting, delicious recipe is no fun if students feel rushed making it. Sometimes, tricks like having boiling water ready when students arrive, pre-cooking or partially cooking certain ingredients, or having students follow a “pay it forward” model where classes prepare foods to be used or enjoyed by following classes can help buy us more time.
- *Will students like the food?* We want everything we cook in the kitchen to be delicious. We often choose foods that many students are already familiar with to maximize student buy-in.
- *What foods are important to our students?* All students should feel welcome, seen, and represented in our space. We cook foods from a variety of cultures, and frequently ask students what foods they eat at home and which foods are important to them. When creating a new lesson, we actively



seek input and feedback from students and community members who identify with that food.

- *What cooking skills do we want students to learn or practice?* If our aim is for students to develop their knife skills, just making pancakes is not the best choice to serve that goal. Add supremed citrus and thinly sliced candied citrus peels to that lesson, and you may have the ideal food.
- *What themes or topics do we want to explore?* If we're building a lesson around the spread of spices from India along the Silk Road to support the sixth-grade history curriculum, we'll choose a recipe that includes the specific Indian spices involved in this historical trade.
- *What goals do we have for student behaviors and habits of work?* If we're aiming to increase students' perseverance and focus, we may choose a recipe that requires a lot of specific, careful knife work like vegetarian sushi, or one that has a narrow margin of error and requires high levels of attention to technique like a rolled omelette.
- *How many students will we have? What is the adult-to-student ratio?* The greater the number of students and the fewer adults, the more important it is to choose a recipe that students can be successful at relatively independently.
- *Will there be enough meaningful jobs?* We want all students to be engaged for the full time that they are with us, whether it be preparing the recipe, setting the table, harvesting herbs for our water, or taking a poll of which hot sauce the table group would prefer to have with the meal.
- *What equipment and tools do we have? Which recipes best meet the constraints or qualities of our space?* We think about work flow when choosing a recipe or multiple recipes. If we already know a lesson includes one dish that will be cooked at the stove, maybe we'll add a recipe that will be eaten raw, or one to be cooked in the oven, to best use our resources and avoid overcrowding any one area of the kitchen.
- *Will students make the recipe at home?* We choose recipes that students can replicate at home with basic equipment and tools and affordable, easily sourced ingredients. When we use special equipment in the kitchen, we suggest alternatives (such as using a glass or bottle as a rolling pin), and always provide copies of the recipes for students to take home.
- *Will preparing the recipe be fun?* We have never made French onion soup and probably never will, because what kid wants to spend a 90-minute cooking class crying?



In the garden, this means determining the garden jobs. Some key considerations when choosing garden jobs are:

- *What does the garden need?* Just as we have our students work with real tools, we always want the work our students do in the garden to be authentic to the true needs of the space. Working on real gardening jobs allows students to work toward mastering gardening skills that will continue to serve them after graduating from our program; it teaches students through experience how to identify and recognize the needs of a garden and how to meet those needs; and it develops in students a sense of self-efficacy and ownership over the space, recognizing that their actions are directly reflected in the growth and health of the garden.
- *How much time do we have?* For many of our students, learning to appreciate the rewards of the work required to maintain and care for a garden is already a major lesson in patience. Whenever possible, we try to have students work on jobs that can come to some form of conclusion or culmination in the time we have to work. We try to provide opportunities for students to see the results of their efforts over the short and long term.
- *What gardening skills do we want students to learn or practice?* Our goal is that every student will graduate from our program with the basic knowledge and experience required to successfully grow food. In most lessons, we include some variation of four gardening jobs: propagate, cultivate, harvest, and compost. Over the course of a student's three years in our program, we intentionally build opportunities for them to develop capacity in these areas.
- *What themes or topics do we want to explore?* We collaborate closely with King Middle School's science teachers and use the Next Generation Science Standards (NGSS) as an invaluable resource to translate academic ideas or concepts into hands-on garden-based experiences. We truly believe that anything can successfully be taught in a garden classroom—collaborating with a diverse group of stakeholders can be key in identifying rich connections.
- *Can many hands complete the task?* We want our students to be meaningfully engaged for the entire work period. If one task won't be enough but is something we feel strongly that we'd like our students to have the opportunity to do or that the garden urgently needs, we'll often have that group spend half the period completing the task and the other half preparing a tasting, working on another job, or in free exploration time.
- *How many students will we have? What is the adult-to-student ratio?* The greater the number of students and the fewer adults, the more important it



is to choose a garden job that students can be successful at relatively independently.

- *Will it make best use of the space?* Whenever we're making a new lesson, we always ask ourselves, "Could this same lesson happen inside?" If the answer is "yes," we know the lesson isn't there yet. The most valuable experiential learning happens in the garden when activities are authentic to the richness and uniqueness the space has to offer. We also always look to have a variety of tasks that can be completed in different areas of the garden. As much as possible, we aim to distribute working groups throughout the garden to avoid cramping one area.
- *Do the tasks appeal to the diverse interests and energy levels of our students?* In every garden class we try to present a variety of jobs that appeal to all students. For example, students with a lot of energy will thrive in more physical jobs, while artistic students love a job in which they can spend the working period painting colorful signs for the garden beds.

4. Crystallize Connections

What teaching practices, structures, or strategies will we use to crystallize the connections between the food, crop, or activity and the specific learning objectives? Defining a learning objective and choosing a food that relates to that objective doesn't necessarily set students up to meet the learning objective. In this step, we get specific about *how* the students will relate with the food, crop, or activity in a way that facilitates the learning we want to happen. This step is especially important because so much of the learning that occurs in our classrooms is experiential. Being intentional about how we frame and set up student experience in our lessons means the difference between, for example, students having a great time propagating starts in the greenhouse and also learning that climate change is causing a rise in global temperatures versus students being able to describe how the way a greenhouse traps heat mirrors the role of the ozone layer in regulating global temperatures.

Practices, structures, and strategies we often use to intentionally make these connections include:

- Chef Meetings/Opening Circles
- Small-group check-ins
- Visual aids or other visual materials
- Written recipes or other procedures
- Breakout activities, labs, or other activity formats



- Discussions and structured reflections (large group, small group, facilitated, open, structured student talk, etc.)
- Lesson props or materials, such as interactive cards or thought-provoking books
- Closing Circles
- Exit tickets

Lesson Revision

After we draft a lesson, the next step is to review it. Just like our initial draft development process, lesson draft revision is always collaborative. The specifics of this collaboration vary from lesson to lesson. Most frequently, the main author(s) of a lesson distributes the draft to a committee of reviewers—generally the other kitchen teachers for a kitchen lesson and other garden teachers for a garden lesson, but sometimes both, as well as academic classroom teachers, and sometimes community members with experience or expertise that relates to the lesson. We make it a point to seek feedback from as diverse a collection of perspectives as possible because we recognize that this is one of the surest ways to succeed in always improving at our work and in creating curriculum that is meaningful to all of our students.

One tool we often use to organize the lesson revision process is the “Curriculum Discussion Tool,” included below. We initially developed this tool as a framework to support us in developing our curriculum for social justice. Explicitly identifying ways that a lesson can work to cultivate social justice and dismantle oppressive systems (section III on the Curriculum Discussion Tool) allows us to better integrate those considerations into our lesson development process. Similarly, enumerating the variety of ways our classrooms can uniquely support students’ academic skills allows us to be more intentional in how our lessons support the academic lives of our students. At its core, the Curriculum Discussion Tool is useful because it holds space for a variety of considerations that we have decided as an organization to prioritize but don’t always get right the first time we draft a lesson.

We don’t expect to hit every consideration on the tool in any single lesson. In fact, it’s generally much better that we don’t. When reviewing a lesson, we absolutely look to see that our goals for student experience, our practical considerations, and our learning goals and objectives are met. In terms of “Anti-Oppression Curriculum” and “Building Academic Skills,” on the other hand, it is often much better for a lesson to very robustly hit one or two marks—trying for any more than



that tends to clutter and dilute a lesson's impact. Instead, we want our curriculum overall, as a collection of lessons, to reflect the priorities listed on the discussion tool.

After individuals have read through a lesson draft and filled out the Curriculum Discussion Tool based on their reading, author(s) and reviewers meet to discuss. And around and around! Lesson development and revision is ongoing, nonlinear, and iterative.



The Edible Schoolyard Curriculum Discussion Tool

Lesson Name:

Lesson Goals:

Student Learning Objectives:

Material and Content for Review

- ☐ Chef Meeting/Opening Circle (content, language, delivery)
- ☐ Small-group check-ins
- ☐ Visual aids or other visual materials (content, language, appearance)
- ☐ Written recipes or procedures (content, language, appearance)
- ☐ Activities (What are the students doing? What are the teachers doing?)
- ☐ Food/crops
- ☐ Other: _____

LESSON REVIEW

Does this lesson do what we want it to do? What does this lesson do? Reflect on all lesson materials and content. Rate considerations in each category below based on how well the lesson does it:

- *YS - Yes (strong)*
- *YW - Yes (weak)*
- *N - No*
- *P - Potentially! Not yet, but could be developed*

I. Student Experience

___ How might different aspects of student identity impact a student's experience of this lesson? Is there anything in this lesson that could alienate, hurt, or cause a student to feel unwelcome on the basis of any aspect of their identity? Consider race, gender, class, family structure, religion, ability, sexuality, body type, other, etc.

___ Is FUN

II. Lesson Goals and Learning Objectives

___ Supports the stated lesson goals

___ Meets the stated student learning objectives

III. Anti-Oppression Curriculum

___ Provides opportunities for students to learn about self and identity

___ Explores how identity differently impacts various groups of people

___ Presents opportunities for critical thinking—especially about identity and access to resources

___ Helps to shift assumptions and dominant stories about what is normal



- _____ (re: race, gender, class, family structure, religion, ability, sexuality, body type, etc.)
- _____ Provides opportunities for students to think critically about the narratives told about food and morality in our culture (e.g. good vs. healthy vs. unhealthy)
- _____ Provides historical context for present-day inequities
- _____ Integrates constructive ideas from students or community
- _____ Incorporates different learning modalities (visuals, body-based learning, etc.)
- _____ Incorporates visual aids that are representative of different cultures and experiences
- _____ Provides opportunities to take action on issues that affect students and their communities
- _____ Provides opportunities for student talk time

IV. Building Academic Skills

- _____ Provides opportunities for students to develop their skills as learners
 - By practicing scientific and inquiry thinking (observation, hypothesis, testing theories, investigating questions, etc.)
 - Through integrating information from a variety of sources (firsthand observations, personal experience, direct instruction, written text, visual aids, existing knowledge, etc.)
 - Through opportunities for metacognition, self-assessment, and process assessment
- _____ Provides opportunities to practice systems thinking (drawing connections, recognizing intersections, cause and effect, thinking on a variety of scales)
 - By drawing connections between lessons learned in kitchen and garden classrooms and the larger world
 - By observing and articulating large-world phenomena/big ideas playing out in kitchen and garden classroom "laboratories"
- _____ Provides opportunities for students to develop their discussion skills
 - By articulating their own ideas in a variety of formats with a variety of participation protocols
 - Through actively listening to the ideas of others
- _____ Provides opportunities for students to develop their literacy
 - Through reading recipes or other process texts
 - Through language and vocabulary acquisition
- _____ Provides opportunities for students to develop their identity as a successful student and sense of self-efficacy around learning
- _____ Provides students the opportunities to build positive relationships with people who can support their academic success
- _____ Integrates information or content that connects to their academic classrooms
- _____ Connects to NGSS, Common Core, CA State History-Social Studies, or other standards

V. Practical Considerations

- _____ Practical in the time given
- _____ Practical in the space
- _____ Practical with the number of students and student-to-adult ratio

Comments:

The Edible Schoolyard Berkeley Standards

1.0 In the Edible Schoolyard Program
Students' work with each other and teachers to develop community and personal stewardship, along with skills that will help them navigate different situations throughout their life.
1.0 Tools
ESY Students
1. Engage in structured groups to complete tasks and practice teamwork .
2. Make positive contributions to small group discussions.
3. Communicate relevant questions to classmates; build language and listening skills by practicing self-control, self-awareness, and noticing our impact on others.
4. Recognize the right tool for a job and clearly articulate reasons for choosing it.
2.0 Techniques
ESY Students
5. Solve problems by clearly identifying the challenge, posing questions, visualizing the end goal and identifying multiple solutions.
6. Routinely make decisions , and demonstrate increased self-awareness, confidence, empathy, and ability to respectfully challenge and debate others.
7. Follow a set of rituals and routines that help work go smoothly and develop into lifelong habits.
3.0 Concepts
ESY Students and Teachers
8. Create an atmosphere of cooperation and unity . We elevate the class experience for all by offering and receiving encouragement, and welcoming the ideas and contributions of others.
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.
10. Develop confidence by creating a supportive and stimulating middle school environment in which they can seek and test boundaries, begin to formulate value systems, and define their interests and talents. The kitchen and garden offer opportunities for students to explore their strengths while building skills for life.
11. Understand seasonality by recognizing and enjoying foods at their peak of flavor and ripeness. Students know that locally sourced foods are good choices because they provide optimum freshness, support the local economy, and help offset global warming
12. Are mindful of bio-diversity as it pertains to the ecology of the garden, the development of food throughout history, and within our own faculty and student body. We explore the garden as an ecosystem and understand that embracing and preserving diversity builds a strong, healthy, and resilient planet.

The Edible Schoolyard Berkeley Standards

2.0 In the Kitchen Classroom		
Throughout their years in the ESY kitchen, students develop a set of tools, techniques, and concepts to feed themselves nutritiously and deliciously, while increasing their awareness of the role of food in much wider environmental, economic, and historical contexts.		
1.0 Tools		
6 th Grade Students	7 th Grade Students	8 th Grade Students
1. Identify basic tools at the ESY Cooking Station and use and care for them with guidance.	1. Use and care for tools and equipment at the ESY Cooking Station, and begin to choose the right tool for each.	1. Choose the right tool for each job at the ESY Cooking Station, anticipate steps of the recipe, and take initiative to cook independently.
2. Identify measuring tools from the ESY Toolbox and follow instructions to use and care for them.	2. Begin to select correct measuring tools from the ESY Toolbox and recognize the need for precision in measuring.	2. Select measuring tools from the ESY Toolbox to measure precisely and convert measurements.
3. Identify different knives from the ESY Toolbox and demonstrate basic knife skills, safety, and care with guidance.	3. Select correct knives from the ESY Toolbox. Refine knife skills by using different cuts and sizes while demonstrating knife safety and care.	3. Demonstrate mastery of knife skills, safety and care using knives from the ESY Toolbox.
2.0 Techniques		
6 th Grade Students	7 th Grade Students	8 th Grade Students
4. Identify ingredients by name, and discuss them using descriptive words in conversation.	4. Understand the versatility of ingredients, and realize that certain ingredients are available in particular seasons.	4. Demonstrate a working knowledge of ingredients, understand and explain seasonality, and identify which ingredients are grown in particular seasons.
5. Use basic techniques as instructed, and refer to them by name in conversation.	5. Execute an increasing variety of techniques, begin to choose the correct technique for each job, and discuss reasons to use different techniques.	5. Demonstrate mastery of a wide variety of cooking techniques, reliably choose the right technique for each job, and compare and contrast technique differences in conversation.

The Edible Schoolyard Berkeley Standards

6. Read and follow recipes , and understand that some recipes are flexible and some are specific.	6. Read and follow recipes with increasing skill, begin to recognize when alterations or adjustments are possible, and improvise recipes when ingredients are provided.	6. Read and follow recipes, customize recipes when alterations and adjustments are possible, and improvise recipes after choosing seasonal ingredients.
7. Taste finished dishes and discuss their sensory observations using descriptive vocabulary.	7. Refine tasting skills and adjust seasoning, compare and contrast different recipes in conversation using more advanced descriptive vocabulary.	7. Demonstrate mastery of tasting and seasoning skills based on sensory observations, identify and recreate flavors from different countries and cultures covered in previous lessons.
3.0 Concepts		
ESY Students and Teachers		
8. Approach lessons with intention by thinking through how the recipe relates to the kitchen, garden, and wider environment as a whole.		
9. Collaborate to identify, choose, and complete jobs to execute recipes, and explain each individual contribution to the end result.		
10. Fully engage their senses and use descriptive vocabulary to discuss observations, situations, events, moods, and other subjects including and beyond food.		
11. Make connections between the diets of historic cultures and foods we eat today.		

The Edible Schoolyard Berkeley Standards

3.0 In the Garden Classroom		
Throughout their years in the ESY garden, students develop mastery of a set of tools, techniques and concepts that help them grow food and understand the natural environment around them.		
1.0 Tools		
6 th Grade Students	7 th Grade Students	8 th Grade Students
1. Identify, begin to use, and care for basic garden tools .	1. Identify, use, care for, and begin to choose specific garden tools and equipment.	1. Identify, choose, use, and care for a wide variety of tools and equipment independently.
2. Identify, begin to use and care for scientific measuring tools in the garden.	2. Select, use, and care for scientific measuring tools in the garden.	2. Select, use, and care for scientific measuring tools in the garden, measure precisely and understand what results mean.
2.0 Techniques		
6 th Grade Students	7 th Grade Students	8 th Grade Students
3. Identify layers and components of a compost pile; observe fungus, bacteria, and invertebrates in decomposition ; tend compost with guidance.	3. Know the ratio of ingredients needed for rapid decomposition in a compost pile; understand how fungus, bacteria,, and invertebrates are part of decomposition; tend and sift compost and worm castings with increased independence.	3. Build, tend, and sift a compost pile from start to finish independently, explain how fungus, bacteria and invertebrates are part of decomposition; identify that decomposition is occurring all around us all the time.
4. Harvest and prepare crops with guidance, recognize the relationship between the kitchen and the garden, and learn the seed to table concept.	4. Harvest and prepare crops with increased independence; understand the seed to table concept, begin to recognize ripeness and understand seasonality.	4. Harvest and prepare crops independently; explain the seed to table concept, recognize ripeness and seasonality, and identify crops ready for harvest.
5. Observe the purpose of soil cultivation , identify necessary tools, and demonstrate their appropriate use with guidance.	5. Understand the purpose of soil cultivation, edge and turn beds with increased independence; recognize good soil structure; and assess when amendments are needed for soil.	5. Explain the purpose of soil cultivation, cultivate a bed independently from start to finish; explain the purpose and function of crop rotation.

The Edible Schoolyard Berkeley Standards

6. Sow seeds and transplant seedlings with guidance; observe that the greenhouse provides an optimal environment for plant propagation .	6. Sow seeds and transplant seedlings with increased independence; graft plants and propagate cuttings with guidance; identify necessary ingredients for soil mixes; understand why the greenhouse provides an optimal environment for plant propagation.	6. Sow seeds and transplant seedlings independently; graft plants and propagate cuttings more independently; make soil mixes for sowing seeds and upsizing plants; explain why the greenhouse provides an optimal environment for plant propagation.
3.0 Concepts		
ESY Students and Teachers		
7. Use observation and awareness to explore, investigate and be inquisitive learners in the garden. The garden classroom provides the opportunity for students to tap into their inherent curiosity about the natural world, observe patterns and connections and understand cause and effect.		
8. Understand that soil is the lifeblood and fertility of the garden: it is alive, diverse, and deserving of our care in cultivation and preservation.		
9. Recognize the garden as 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.		
10. Acknowledge water as a precious resource that is intrinsic to all living organisms, explore methods of water conservation, and are encouraged to do the same in their own lives as well.		

