

# TEN YEARS OF EDUCATION

*at the* EDIBLE SCHOOLYARD



· CHEZ PANISSE FOUNDATION · *Cultivating a New Generation* ·

T E N   Y E A R S  
O F   E D U C A T I O N  
*at the* E D I B L E   S C H O O L Y A R D



CHEZ PANISSE FOUNDATION



*Cultivating a New Generation*

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## PREFACE

# **SLOW FOOD, SLOW SCHOOLS: TRANSFORMING EDUCATION THROUGH A SCHOOL LUNCH CURRICULUM**

*by* Alice Waters

For me, life is given meaning and beauty by the daily ritual of the table—a ritual that can express tradition, character, sustainability, and diversity. These are some of the values that I learned almost unconsciously at my family table as a child. But what beliefs and values do today's children learn at the table? And at whose table do they dine?

The family meal has undergone a steady devaluation from its onetime role at the center of human life, when it was the daily enactment of shared necessity and ritualized cooperation. Today, as never before in history, the meals of children are likely to have been cooked by strangers, to consist of highly processed foods that are produced far away, and to be eaten casually, greedily, in haste, and, all too often, alone. I believe public education must help restore the daily ritual of the table in all our children's lives. Public education has the required democratic reach. And it desperately needs a curriculum that offers alternatives to the fast-food messages that saturate our contemporary culture. These messages tell us that food is cheap and abundant; that abundance is permanent; that resources are infinite; that it's okay to waste; that standardization is more important than quality; and that speed is a virtue above all else.

Fast-food values are pervasive and often appear where they least belong. Recently, for example, I visited a museum of natural history, which celebrates the astonishing diversity of world cultures, the beauty of human workmanship, and the wonders of nature. It even houses an impressive collection of artifacts relating to food along with depictions of hunting, foraging, agriculture, food preparation, and the hearth. But in the museum cafeteria, crowds of people queue up in a poorly lit, depressing space as if in a diorama of late twentieth-century life, surrounded by that unmistakable steam-table smell of precooked, portion-controlled food. In this marvelous museum, surrounded on all sides by splendid exhibits that celebrate the complexity of life and the diversity of human achievement, people appear to have stopped thinking when it comes to their very own everyday experience. People appear to be oblivious to the fact that the cafeteria represents the antithesis of the values celebrated in the museum.

Yet a museum cafeteria could have delighted the senses. It could have been a beautiful space that made you think. It could have served delicious meals in ways that teach where food comes from and how it is made. And when you returned your tray, it could have demonstrated important lessons about composting and recycling. You could even have a little friendly human inter-

action, had the cafeteria been designed to encourage it. It could have inspired you to emerge from the museum and see the world in a different way. Instead it was like a filling station.

Our system of public education operates in the same alienating, no-context zone of hollow fast-food values. Maurice Holt, professor emeritus at the University of Colorado, has observed that public education today has little philosophical grounding and is relatively unconcerned with tradition and character. In school cafeterias, students learn how little we care about the way they nourish themselves—we've sold them to the lowest bidder. Soda machines line the hallways. At best we serve them government-subsidized agricultural surplus; at worst we invite fast-food restaurants to open on school grounds. Children need only compare the slickness of the nearest mall to the condition of their school and the quality of its library to learn that they are more important as consumers than as students.

We need a systematic overhaul of education inspired by the International Slow Food movement. This eco-gastronomic movement celebrates diversity, tradition, character, and what its founder, Carlo Petrini, calls "quiet material pleasure." This is exactly what Maurice Holt has proposed. "Slow Schools" would promote community by allowing room for discovery and room for paying attention. Concentration, judgment, and all the other Slow School values that testing cannot measure would be given a chance to flourish.

How do we begin to turn the public schools into Slow Schools? The Edible Schoolyard at the Martin Luther King Jr. Middle School in Berkeley, California, provides a hopeful model. King Middle School is a public school with about 1,000 students in the sixth, seventh, and eighth grades. It boasts an astonishingly diverse community socially, economically, and culturally—more than 20 languages are spoken among the students' homes. A decade ago, this school was surrounded by a large expanse of blacktop. The school's cafeteria had been closed because it could no longer accommodate all the students. Prepackaged, microwaved food was sold from a shack at the end of the parking lot.

Members of the community, dismayed by the state of the school, began speaking with other parents and teachers. We noticed that the blacktop schoolyard was large enough for an enormous garden and talked about initiating an edible landscape. We suggested that the students could plant and care for a garden and even learn to cook, serve, and then sit down and eat together in a renovated cafeteria and lunchroom. These ideas would have been little more than well-intentioned fantasies had King Middle School not had an enlightened principal, Neil Smith. He understood that a new school garden and a renovated cafeteria and lunchroom meant more than just the beautification of school grounds. He understood that these were the central elements of a revolution in both the lunch program and the entire school curriculum.

Presently the Edible Schoolyard consists of a one-acre organic garden and a kitchen classroom. In the garden students are involved in all aspects of planting and cultivation, and in the kitchen classroom they prepare, serve, and eat seasonal, nutritious food, some of which they have grown themselves. These activities, taking place during the school day, are woven into the curriculum. King Middle School is building a new ecologically designed cafeteria and preparing for the transformation of its lunch program. Once the new cafeteria opens its doors, lunch will be an everyday, hands-on experience for the students and an essential part of the life of the school.

Such a curriculum is not a new idea in education. Waldorf schools and Montessori schools, among others, practice similar experiential, value-oriented approaches to learning based on participation. This kind of participatory learning makes all the difference when it comes to opening young minds. The Edible Schoolyard, for instance, has shown that if you offer children a new dish, there's no better than a 50 percent likelihood they will choose it. But if they've been introduced to the dish ahead of time, and if they have helped prepare it, they will all want to try it.

Learning is supposed to be a pleasure, and a food-centered curriculum is a way to reach kids in a way that is truly pleasurable. At first, the kids may not quite believe that they are allowed to have so much fun outside in the garden. Before long, though, they all understand composting and recognize what is ripe in the garden and when to pick it. This is knowledge they have unconsciously learned from experiences like picking the raspberry patch clean every morning. So much information floods in while they are touching and smelling and tasting—because they are using all of their senses to engage in the world around them. What better way to learn about geography than by combining 27 aromatic spices to make an Indian curry?

This is the beauty of a sensory education: the way all the doors into your mind are thrown wide open at once. Esther Cook, who teaches in the kitchen at King Middle School, says it so beautifully: “The senses are truly the great equalizer. They are the key to a beautiful life, a really fulfilling life, and they are available to anybody.”

A Slow School education is an opportunity that should be universally available—the more so because kids aren't eating at home with their families anymore. In fact, in the United States, many children never eat with their families (an observation confirmed by our experience at King Middle School). Our most democratic institution, the public school system, now has an obligation to feed our children in a civilized way around a table. Students should be asked to participate in this process, not just as a practical exercise but also as a way of infusing beauty and meaning into their lives.



There are countless ways to weave a food program into the curriculum at every level of education. The creation of the Slow Food University in Pollenzo, Italy, which will open next fall, clearly shows the seriousness and wide reach of an eco-gastronomic perspective. It is reconfiguring gastronomy as a subject of academic inquiry. The depth and breadth of the subject—its relevance to ecology, anthropology, history, physiology, and art—ensure it could integrate easily into academic studies of every school, from kindergarten to the university.

Now, if every school had a lunch program that served its students only local and sustainably farmed products, imagine what this would mean for agriculture. Today, 20 percent of the population of the United States is in school. If all these students were eating lunch together, consuming organic food grown locally, agriculture would change overnight to meet the demand. Our domestic food culture would change as well, as people again grew up learning how to cook affordable, wholesome, and delicious food.

To make this a reality we need more model programs at all levels. Once these models are successful, we will have the momentum to seek the mandate and receive the money needed to make them a reality throughout the country. We know from experience that it can be done.

Forty years ago, a presidential commission in America told us our children were physically unfit and recommended the launch of a national physical fitness program. The country responded by building gymnasiums, buying equipment, training new physical education teachers, and making physical education a required part of the curriculum in every school. Today we are worried anew about the health of our children. Child obesity rates are shocking, and at the present rate of increase, one out of every three children can be expected to develop diabetes; for African American children, the statistic is one out of every two. We must respond by bringing real food, nutritious food, back into the schools and into the curriculum. We must create new incentives for educators to integrate real food into the lives of their students. Perhaps the best and most radical way to do this is to give credit for school lunch, just as credit is given for physical education or for math or science. This would add a new dimension of integrity to the lunchroom, placing it on a par with the classroom and breathing new life and dignity into learning how to eat.

What we are calling for is a revolution in public education—a real Delicious Revolution. When the hearts and minds of our children are captured by a school lunch curriculum, enriched with experience in the garden, sustainability will become the lens through which they see the world.

—2005, *Turin, Italy*

## FOREWORD

The Chez Panisse Foundation has supported the Edible Schoolyard for over a decade. During this time, the Edible Schoolyard has grown from a single staff member to its current configuration of six full-time staff members, one part-time teacher liaison, and two AmeriCorps members. The program hosts more than 1,000 visitors each year—from educators to health professionals to international delegates—and has inspired countless kitchen and garden programs across the country.

Over the past few years, the number of inquiries we have received from teachers, parents, and community members who want to create Edible Schoolyards in their communities has increased significantly. This document is our first effort to capture what we do and share what we have learned after a decade of hard work. We are developing companion pieces, including a kitchen and garden manual that will document our best lessons, recipes, and rituals in more detail. This document is only a starting point.

The best way to understand what we do is still to visit the program. To hear students debate what is in the compost pile as they turn it or to see a child devour a bowl of kale and polenta is to understand the impact we have on children's food choices every day. The experiences we give children are, as Alice Waters says, "as right as rain." We hope this document inspires an Edible Education movement that is powerful enough to change the way we feed our children in the United States.

CARINA WONG

*Executive Director*

*Chez Panisse Foundation*





## INTRODUCTION

The Edible Schoolyard, created in 1995, is a one-acre organic garden and kitchen classroom at Martin Luther King Jr. Middle School in Berkeley, California. Over 10 years, the garden has grown from a cover crop in a vacant lot to a thriving acre of vegetables, fruits, herbs, and edible flowers. The garden supplies hundreds of pounds of seasonal organic produce to the Edible Schoolyard's kitchen classes, produce giveaways at King Middle School, and local community programs.

The kitchen classroom is housed in a colorful bungalow that sits at the garden's southwest border, providing a warm backdrop for the tacit connection students make between seasonality, plants, and food. The garden is in full view through the kitchen's north-facing windows. Students prepare a diverse selection of recipes using a variety of delicious fruits, vegetables, and eggs harvested daily from the garden.

This publication is an effort to communicate our program philosophy, educational practice, and structure in sufficient detail for use as a guide for other organizations. There are five chapters. Chapter One includes our mission statement, the principles that have guided our program, and our goals and outcomes for students. Chapter Two describes the organization of our program, from staffing to scheduling. Chapter Three explains how we work with teachers to link our program to the California State Standards and what our approach to teaching looks like. Chapter Four is a compilation of the lessons we have learned over the past decade, with helpful hints for educators interested in creating their own kitchen or garden program. The last chapter describes the next phase of our work. The Appendices include recommended resources, job descriptions, essential materials, and a sample budget. We also share our strategies for fundraising and building community support, along with a chronology of significant milestones in the Edible Schoolyard's history.



# I MISSION, GUIDING PRINCIPLES & GOALS

## MISSION STATEMENT

The mission of the Edible Schoolyard at Martin Luther King Jr. Middle School is to create and sustain an organic garden and landscape that are wholly integrated into the school's culture, curriculum, and food program.

The Edible Schoolyard involves the students in an interactive way in all aspects of farming the garden—along with preparing, serving, and eating the food—as a means of awakening their senses and encouraging awareness and appreciation of the transformative values of nourishment, community, and stewardship of the land.

## FIVE GUIDING PRINCIPLES

The following principles guided the design and conception of the Edible Schoolyard program:

### *Food is an academic subject*

A school garden, kitchen, and cafeteria are integral to the core academic mission of the school. Every subject comes alive, from reading and writing to science and the arts.

### *Children learn by doing*

Hands-on education, in which the children do the work themselves in the garden and in the kitchen, engages their senses and opens their minds both to their core academic subjects and to the world around them.

### *Schools support farms*

School cafeterias buy seasonally fresh food from local sustainable farms and ranches, not only for reasons of health and education, but as a way of strengthening local food economies.

### *School provides lunch for every child*

From preschool through high school, every child is served a wholesome, delicious meal every day. Good food is a right, not a privilege.

### *Beauty is a language*

A beautifully prepared physical environment, where deliberate thought has gone into everything from the garden paths to the plates on the tables, communicates to children that we care about them.

## PROGRAM GOALS

Students who participate in the Edible Schoolyard program learn about the connection between their everyday food choices and the health of the community, the environment, and themselves. These lessons foster sound nutritional practices, responsible food choices, and environmental stewardship.

### We teach the ideas of:

#### *Cycles, sustainability, and connectedness*

The firsthand lessons of the garden and the kitchen help students learn about seasons and change; sustainability in all aspects of life; the connections between land, school, and community; the environmental and personal impact of food choices; and wellness through the knowledge of healthy choices and the access and empowerment to make them.

### As a learning environment, we provide our students with:

#### *A social space*

Students can engage in positive interactions with adults, role models, and peers.

#### *A safe and beautiful environment*

Students have an opportunity to interact with the natural world in a way that fosters their investment in it and shows the children we care about them.

#### *An integrated curriculum*

The experiences of students link to and extend classroom curricula.

### The Edible Schoolyard exists as a model to:

#### *Encourage others*

The Edible Schoolyard is a universal idea. We want to encourage others to create Edible Education programs across the country by sharing lessons we've learned and raising public awareness.

#### *Promote nature in education*

As a context for learning, the natural world holds a place for beauty, innovation, experimentation, and observation.

## STUDENT OUTCOMES

### Students leave the Edible Schoolyard with:

#### *A sense of...*

Curiosity, wonder, ownership, accomplishment, and place.

#### *The ability to...*

Work together and share tasks to complete a job, respect oneself and others, listen actively, and make healthy food choices.

#### *An appreciation for...*

Diversity and new foods.

#### *Exposure to...*

How food is planted, grown, harvested, and prepared; the wide variety of seasonal fruits and vegetables.

### Students gain an understanding of:

#### *Sustainability*

How they as individuals impact the environment and how the environment affects them personally.

#### *Seasonality*

How the seasons and plants are connected.

#### *Ritual*

How eating at the table connects school, family, and community.

#### *Heritage*

How rich and diverse the agricultural and food traditions of their student body really are.

#### *Sensory participation*

How to use all five senses to create a whole experience.



## 2 STRUCTURE & FUNDING



## OUR PARTNERS

The Edible Schoolyard relies on an array of supporters, from classroom teachers to local businesses.

### *Classroom teachers*

Classroom teachers are essential to the Edible Schoolyard in a number of ways. Their enthusiasm and support have been vital, from their assistance with the early development of the site to their continuing efforts to integrate the program into the daily life and functioning of the school.

The decision to have classroom teachers accompany their students to the garden and kitchen proved essential to the program's success. By participating alongside their students, classroom teachers merge their personal interests and skills, and their goals as educators, with the program. They can readily link the hands-on experiences of the garden and kitchen with the core curriculum, and themes introduced in the classroom can be incorporated into garden and kitchen lessons as a way to activate prior knowledge, enriching the children's learning experience.

When teachers participate in the program, their experience with their classes enables them to organize and manage the students in ways that promote cooperation and build community. The Edible Schoolyard also provides a valuable opportunity for teachers to see their students in a different setting; those who might not excel in the classroom are frequently very successful in the garden and kitchen.

Regular communication with classroom teachers ensures that garden and kitchen activities support curricular studies in a vibrant way that enhances learning. The program benefits when Edible Schoolyard staff members participate in planning sessions with individual teachers and attend school-wide, grade-level meetings as well as department meetings.

The garden and kitchen can also provide a setting for teachers to gather, learn, and relax outside of the classroom. Conversations between teachers and the Edible Schoolyard's staff have led to the acquisition of our apple cider press, the addition of chickens to the garden, the development of annual mini-units on soil and pollination, and the use of several recipes that link history and culture to the food prepared in the kitchen.

Currently, more than 30 teachers at King Middle School participate with their classes in our kitchen and garden.

### *Volunteers and interns*

The Edible Schoolyard garden and kitchen classes usually include at least one community volunteer and/or intern. From the office of Berkeley School Volunteers, about 25 volunteers join the garden and kitchen classes each week. A standing waiting list allows constant rotation of new volunteers into the program. Volunteers are integral to the program's success, playing valuable roles as mentors to the students and assisting with garden maintenance on quarterly Community Work Days.

Interns also work closely with the permanent staff. They typically spend a three- to six-month period assisting with program operations and with the garden and kitchen classes.

## **THE COMMUNITY**

The Edible Schoolyard relies on a dedicated community. Teachers, students, gardeners, farmers, chefs, donors, volunteers, neighbors, and parents are all part of the diverse network involved in our success. The diversity of this group reflects the same principles that guide our educational mission.

The Center for Ecoliteracy was one of our first funders and for the past 10 years has been a partner in developing curriculum strategy for the Edible Schoolyard and King Middle School teachers. The center was also crucial in helping conceive the School Lunch Initiative. It continues to contribute to its success by supporting professional development for teachers in the Berkeley Unified School District and educators across the country.

We solicit support from businesses in Berkeley and beyond. To provide King Middle School students with many of the tools and supplies needed to farm their acre of land, the Edible Schoolyard procures donations from Berkeley Horticultural Nursery, Sweetwater Nursery, Western Growers Association, Tinker's Workshop, Forestree Services, ANIMAL Farm, Johnny's Seeds, Renee's Garden Seeds, OXO, and many others. Berkeley Farmers' Market, Acme Bread, Cheese Board Collective, Picante Cocina Mexicana, Vital Vittles, Berkeley Bowl Marketplace, and Café Fanny support SAT-9 test-week breakfasts, collaborative meetings, school and community events, and staff development with their generous donations of food.

## FUNDING AND START-UP COSTS

The Edible Schoolyard was started with an initial \$10,000 grant. The garden's abundance of plants, trees, flowers, and hardscape elements is largely the result of community support. Donations of everything from heirloom fruit trees to a set of sturdy shovels and forks have come from farmers, nurseries, seed companies, carpenters, and local businesses. Without community support or donations, we estimate start-up costs for a one-acre garden, serving 300 students per week, at \$21,000.

Cooking supplies came from special events like the Kitchen Warming, in which every guest brought something for the kitchen made of wood, from spoons to cutting boards. Donations were also received from local restaurant suppliers, restaurants, and kitchen equipment companies. Without community support, we estimate start-up costs for a kitchen classroom serving 300 students per week to be \$25,000.

There is a wealth of information available for new school garden projects online. Begin with these websites for more ideas:

[www.edibleschoolyard.org](http://www.edibleschoolyard.org)

[www.chezpanissefoundation.org](http://www.chezpanissefoundation.org)

[www.schoolgardenwizard.org](http://www.schoolgardenwizard.org)

[www.kidsgardening.com](http://www.kidsgardening.com)

[www.csgn.org](http://www.csgn.org)

The Edible Schoolyard is a program of the Chez Panisse Foundation. The Foundation raises annual funds of about \$400,000 to support the Edible Schoolyard each year; nearly 80 percent of those funds support teachers while the remaining monies cover operating expenses. Berkeley Unified School District provides an acre of land for the garden, a building to house the kitchen classroom, and many hours of classroom teacher time devoted to creating and teaching garden- and kitchen-based lessons.

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*In Appendices III and IV, you will find lists of essential materials for any start-up program and a sample budget.*

## STAFFING

The Edible Schoolyard has six full-time staff members employed by the Foundation, a part-time teacher liaison, and two AmeriCorps members.

### *Program Coordinator*

The Program Coordinator oversees day-to-day program operations, including: garden and kitchen staff; the volunteer program; program budget forecasting, accounting, and facilities maintenance; program planning and documentation; coordination of the Edible Schoolyard's after-school enrichment classes; community outreach; and public relations, tours, and media.

### *Program Associate*

The Program Associate's responsibilities include: volunteer scheduling and coordination; responding to telephone and email inquiries; general administrative duties; petty cash fund management; overseeing student interns; staff meeting agendas; photo documentation; and maintenance of program archives.

### *Garden Manager/Teacher and Assistant Garden Teacher*

The Garden Manager/Teacher and Assistant Garden Teacher develop lesson plans, teach garden classes, plan and manage food production, and maintain the physical and ecological health of the garden. The Garden Manager trains and supervises AmeriCorps members and volunteers, and represents the program at speaking engagements, workshops, and conferences.

### *Chef Teacher and Assistant Chef Teacher*

The Chef Teacher and Assistant Chef Teacher develop lesson plans, teach kitchen classes, link garden planting and harvesting to seasonal recipes, and maintain the physical aesthetic of the kitchen. Both kitchen teachers train and supervise interns and volunteers, and represent the program through speaking engagements, workshops, and conferences.

### *AmeriCorps members*

In addition to the permanent garden staff, the Edible Schoolyard garden employs and trains two Bay Area Youth Agency Consortium (BAYAC) AmeriCorps members each school year. The AmeriCorps members serve as garden teachers and youth mentors. When not working with King Middle School students, they cultivate the garden and are trained in horticultural practices, including pruning, plant propagation, and soil amendment.

A San Francisco Bay Area AmeriCorps agency places AmeriCorps members in schools and nonprofit organizations that offer youth education and services through tutoring,

mentoring, health education, and school gardening. They receive a monthly stipend as well as an educational award upon completion of 10 months of service. AmeriCorps members typically spend three days a month with BAYAC on personal and professional development in addition to their full-time commitment to the garden.

### *Teacher Liaison to the Edible Schoolyard*

The Teacher Liaison is a member of the King Middle School faculty and serves as the link between the Edible Schoolyard and King Middle School. Responsibilities include coordination of the Edible Schoolyard's garden and kitchen class schedules to ensure the participation of every student in our program. The Teacher Liaison also collaborates in the creation of innovative lesson plans and activities that integrate the teachings of the Edible Schoolyard program into the school curriculum.

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*In Appendix II, you will find full job descriptions for each of these positions.*



# 3

## CURRICULUM INTEGRATION & PEDAGOGY

## SCHEDULING AT KING MIDDLE SCHOOL

King Middle School follows a block schedule. Each class period is 90 minutes in duration. In order to facilitate curriculum integration, the class schedule is divided by subject area so that humanities and electives classes go to the kitchen, while science classes are dedicated to the garden. Each grade level rotates into both the garden and kitchen.

The process of scheduling classes in the garden and kitchen has evolved to meet the needs of King Middle School’s fluctuating population, class size, and master schedule. Each student at King Middle School spends a total of 48 hours in the Edible Schoolyard in sixth grade, 36 hours in seventh grade, and 18 hours in eighth grade. During their three years at the school, all students take part in kitchen and garden classes during each season.

There are between 850 and 950 students at King Middle School each year. In order to accommodate every child, the Edible Schoolyard program typically teaches 10 to 12 90-minute classes in the garden and 10 to 12 90-minute classes in the kitchen every week. The remaining blocks allow for garden and kitchen maintenance, program and lesson development, and class preparation.

Students do not come to the garden or kitchen every day. In a typical semester of 18 weeks, each sixth-grade student will visit the garden once a week for 9 weeks with his or her science class. During those same 9 weeks, each seventh-grade humanities class will visit the kitchen once a week for 6 weeks, after which each eighth-grade humanities or electives class will have a kitchen class once a week for 3 weeks. After the garden rotation, sixth-grade students complete the semester with their humanities class in the kitchen classroom, cooking once a week for 9 weeks. During this period, each seventh-grade science class visits the garden once a week for 6 weeks, then eighth-grade students will have science class in the garden for 3 weeks.

## A TYPICAL SEMESTER SCHEDULE

SEMESTER WEEK	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
GARDEN	6TH-grade math/science core (9 weeks)									7TH-grade science (6 weeks)						8TH-grade science (3 weeks)		
KITCHEN	7TH-grade humanities (6 weeks)						8TH-grade history/ electives (3 weeks)			6TH-grade humanities core (9 weeks)								



## SCHEDULING CONSIDERATIONS

Some important factors to keep in mind while developing schedules for garden and kitchen classes:

### *Seasonal weather*

Garden classes sometimes get rained out, and there are fewer garden tasks during winter months. For seasonal “equity” all students need time in the garden during the more active and temperate fall and spring months.

### *The school’s master schedule*

Early dismissal days, assemblies, and field trips may conflict with garden/kitchen classes.

### *Coordination of staff responsibilities*

Time with volunteers, meetings, conferences, media events, public tours, and other visitors have to be arranged and balanced. Be sure to include daily periods for planning, prep, and maintenance.

### *Shifts in school population*

Increases or decreases in the number of students in different years require schedule changes and flexibility.

## A TYPICAL WEEKLY SCHEDULE

### GARDEN SCHEDULE

CLASS PERIOD	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9:00–10:30	7 <sup>TH</sup> -grade science class #1	7 <sup>TH</sup> -grade science class #3	7 <sup>TH</sup> -grade science class #5	7 <sup>TH</sup> -grade science class #7	7 <sup>TH</sup> -grade science class #10
BREAK					
11:00–12:30	7 <sup>TH</sup> -grade science class #2			7 <sup>TH</sup> -grade science class #8	7 <sup>TH</sup> -grade science class #11
LUNCH					
1:20–2:50		7 <sup>TH</sup> -grade science class #4	7 <sup>TH</sup> -grade science class #6	7 <sup>TH</sup> -grade science class #9	

### KITCHEN SCHEDULE

CLASS PERIOD	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9:00–10:30	6 <sup>TH</sup> -grade humanities class #1	6 <sup>TH</sup> -grade humanities class #3	6 <sup>TH</sup> -grade humanities class #5	6 <sup>TH</sup> -grade humanities class #8	6 <sup>TH</sup> -grade humanities class #10
BREAK					
11:00–12:30			6 <sup>TH</sup> -grade humanities class #6		
LUNCH					
1:20–2:50	6 <sup>TH</sup> -grade humanities class #2	6 <sup>TH</sup> -grade humanities class #4	6 <sup>TH</sup> -grade humanities class #7	6 <sup>TH</sup> -grade humanities class #9	6 <sup>TH</sup> -grade humanities class #11

## CONNECTION TO STANDARDS

The Edible Schoolyard uses a hands-on experiential approach to learning. Students come to the Edible Schoolyard garden and kitchen with their science and humanities classes, respectively.

In the garden, students participate in hands-on lessons that are linked closely to California Science and Math Content Standards, including:

**6TH-grade: Earth Science (Landforms, Energy, Ecology)**

**6TH-grade: Number Sense, Measurement and Geometry, Statistics,  
Data Analysis, Probability**

**7TH-grade: Life Science (Biology, Genetics, Evolution)**

**8TH-grade: Physical Science (Chemistry, Physics)**

In the kitchen, students prepare recipes and learn about cultures and traditions that support the California Social Science Content Standards, including:

**6TH-grade: Ancient Civilizations**

**7TH-grade: Medieval and Early Modern History**

**8TH-grade: U.S. History**

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*For sample lessons, please visit [www.edibleschoolyard.org](http://www.edibleschoolyard.org). For more curricular resources linking garden and kitchen education to educational content standards, see Appendix I.*

## IN THE GARDEN CLASSROOM

Each 90-minute garden class begins with the students and their classroom teachers gathering in the Ramada, a circular shade structure located near the center of the garden. The children walk from their science classroom to the garden, where they are greeted by garden teachers and introduced to the day's tasks. The Garden Manager writes the jobs on a whiteboard, explains each one, and identifies the supervising adults and the scope of the work. The Question of the Day, which varies with each class, is presented and provides a focus for students' contemplation during their class in the garden. Some examples are "If you were a garden superhero, what would your superpower be?" or "Name a dormant plant" or "If you could make a dish in your own home using something from the garden here, what would you make?"

Students choose a job and break into small groups. Accompanied by an adult, the groups move into the specific area of the garden where they will work and receive more detailed task descriptions. A walk to the toolshed to get tools, protective clothing, or harvest baskets follows. Jobs are determined by the cycle of seasons, weather, and food production and may include: harvesting food for kitchen classes; turning compost to shape new piles; sifting finished compost for potting soil; building a trellis or arbor; turning, amending, and planting a bed; or focusing on a standards-based science lesson. Garden teachers and volunteers work alongside students to assist with tool use, keep the group on task, and model behavior that shows respect for one another, the garden's flora and fauna, and the land. Students take breaks for water or foraging but must ask permission of an adult before leaving their group.

About 20 minutes before the end of the class period, a garden teacher signals the beginning of cleanup by ringing a cowbell that can be heard across the garden. The cleanup follows an organized process: students clean tools using sand and linseed oil to prevent rust, and then they store their tools properly in clearly labeled racks and bins, or on shelves or hooks. Following cleanup, everyone returns to the Ramada for the closing circle. The closing circle consists of a reflection on the day's work and a go-around in which students share a personal response to the Question of the Day. The classroom teacher dismisses class.

## IN THE KITCHEN CLASSROOM

Students come to the kitchen classroom with their humanities classes and teachers. The children stow their belongings, don aprons, and wash their hands before gathering at the central table. Each 90-minute class begins with a brief presentation from the Chef Teacher introducing the day's recipe(s), ingredients, and preparation methods. The class divides into three groups and prepares the recipe(s), tasting along the way to ensure that the end result reflects the program's high taste expectations. Each group includes 10 or so students, a cooking or classroom teacher, and a community volunteer. Students set their tables with a cloth, plates, silverware, and fresh flowers. Everyone participates in the sharing of food and conversation and then takes responsibility for thoughtful cleanup.

Curriculum links are made to cultures and civilizations by exploring staple foods and cooking methods. Students practice churning butter and grinding their own wheat and corn into flour. They appreciate the inherent beauty and bounty of the garden by examining the structure of a fava bean or counting seeds in a cherry tomato, awed by the ability of one tiny tomato to hold the potential for 100 plants. "Enough for everyone on my block!" exclaimed one student.

Students practice the principles of ecology as they reuse, recycle, and compost. Vegetable peels and scraps become stock, a tin can becomes a cookie cutter, and bottles are employed as rolling pins. Children carry garden produce to the kitchen and then return kitchen scraps to the garden's compost pile, thus participating in nature's cycle of regeneration. As they plan menus in anticipation of crops they themselves planted, and as they eat their way through the seasons, their attachment to the natural world strengthens and grows.

## OTHER PROGRAMMING

In addition to attending garden and kitchen classes during the academic year, King Middle School students may participate in the Edible Schoolyard Summer Program. Over a period of four weeks, the Summer Program offers an immersion opportunity for a small group of students to focus on farming the garden during its most productive season. Led by the Edible Schoolyard staff, AmeriCorps members, and volunteers, these programs have included incoming fifth-grade students, King Middle School alumni returning from high school, and current sixth-, seventh-, and eighth-grade students. The Summer Program ensures maintenance of the garden and use of the seasonal harvest in months when school is not in session.

The Edible Schoolyard serves as a gathering place for school celebrations and as a meeting space for various school clubs. It hosts a number of meals, including a dinner on Back-to-School Night with students and families for whom English is a second language. The program also sponsors after-school classes, plant sales, harvest giveaways, and community trainings. Because the Edible Schoolyard is open to the community, with no gates or fences, the garden is a welcoming space for neighbors, families with young children, and other visitors during the weekend and when school is not in session.



4

## LESSONS LEARNED



## LESSONS LEARNED

After 10 years of gardening, cooking, and learning with thousands of Berkeley students, we offer a few lessons we've learned to those launching garden-based programs focused on youth.

### Two universal truths we have found.

#### *Will they eat it?*

When kids grow it and cook it, they eat it.

#### *Do they like it?*

This program is about pleasure—students truly relish their time in the garden and kitchen.

### Classroom teachers make or break the program.

Though individual teachers may bring different levels of excitement, interest, and cooperation to the curriculum-integration process, working closely with them will ensure that what happens in the classroom will have a positive influence on the students' learning experiences in the garden and kitchen.

#### *Find time to plan together*

It is essential to dedicate collaborative time for teachers and the garden and kitchen staff to plan together. Building a sense of ownership with classroom teachers is another crucial step. Work within their schedules, and attend staff and grade-level meetings to support mutual understanding.

#### *Connect to the academic curriculum*

As they are under significant pressure to teach to standards, classroom teachers appreciate when garden and kitchen staff confer with them to prepare lessons that will address or complement their specific content standards.

#### *Teachers need training, too*

Finally, offering special trainings for teachers in the garden and kitchen will go far in helping them work comfortably and confidently with the students later in small groups.

## **Recognize students' different skills, knowledge, and needs.**

Berkeley Unified School District has garden and kitchen programs in nearly every elementary school. Students entering King Middle School from those schools may demonstrate a higher experience level, but we have found that all children are fascinated with the ecological aspects of the garden. The program's success entails channeling their excitement into thoughtful, memorable lessons.

### *Students depend on structure and ritual*

Established routines ensure that students are clear about the basic organization of the kitchen and garden as well as the activities that take place there. For example, we gather regularly in the Ramada and at the central table in the kitchen, and our rituals of opening and closing circles frame our lessons. A shared vocabulary of terms repeated consistently in the classroom, garden, and kitchen helps students make critical connections.

### *Students like to be involved in activities, in groups and as individuals*

A variety of activities in the garden and a diversity of teachers and volunteers will ensure that students remain engaged. Working in small groups with a high adult-to-student ratio is critical to increased student learning. Students need opportunities to be heard and recognized as individuals. For example, sharing thoughts at closing circles allows each one to be acknowledged by garden staff.

## **Help students make connections.**

Developing meaningful links between the garden, the kitchen, and the students' home lives requires thoughtful planning far in advance.

### *Connect the garden and the kitchen*

It is beneficial to have your kitchen and garden in close proximity to each other. Coordination between the garden and the kitchen staff is key to recipe and lesson development. To make the strongest connection between what is grown and what is cooked, consider what the kitchen classes need before planting the garden.

### *Connect the classroom and the home*

Providing a way for students to take produce home from the school garden allows them to share their excitement with their families. Providing a way for students to share their families' recipes with their classmates and to return home with recipes from the kitchen classes builds community, provides context, and reinforces the lessons.

## **Both volunteers and trained staff are important.**

A successful program depends on balancing the strengths and skills of dedicated volunteers with those of trained, permanent staff members.

### *Volunteers*

Community members can share their stories with students, talk to them about their commitment, and instill a sense of self-worth in the children, who feel valued by an adult interested in their lives. A robust core of volunteers requires a significant amount of administrative time. Allot adequate time to recruit, manage, train, and appreciate volunteers.

### *Permanent staff*

Avoid relying solely on volunteers. It is essential to balance the specialized experience and expertise of gardeners, visiting chefs, and other community members with the consistency, educational training, and long-term vision of permanent, paid staff.

## **Change is constant.**

The Edible Schoolyard's garden and kitchen staff members continue to assess and refine the program, applying each new lesson learned.

The program evolves each year. Successful ideas are kept and expanded upon, while others are replaced.

## **IN THE GARDEN**

The garden requires constant attention. Through the years, we have learned some specific and important aspects of creating a successful school garden program.

### *Hire an experienced gardener*

The production, maintenance, aesthetic, and health of the garden require a year-round staff member.

### *Connect with experts*

Find and connect with teachers and artisans who have a lot of passion for their work. Bring in experts who can teach students to design and build the garden's walls, beds, and fences.

### *Plant the garden as a space to unify the school*

Rather than each class working a separate bed or designated plot, have everyone collaborate on the garden's success as a whole ecological system. Plant enough of a garden that all students can enjoy harvesting and tasting. Leave room in the garden for planting flowers, as they add beauty, encourage beneficial insects, and come in handy for special occasions.

### *Make it playful*

Use the garden to hold observational experiences, not paper-and-pencil activities. Make touching, smelling, and tasting a part of each lesson. Encourage foraging for foods that can be eaten raw, such as raspberries, carrots, and peas.

## **IN THE KITCHEN**

Cooking and eating the food they helped grow completes the students' circle of lessons. Good organization in the kitchen establishes important skills as well as ensuring smooth, enjoyable classes.

### *Choose a seasonal cook*

The Chef Teacher must have significant experience with the harvesting, preparation, and cooking of local, seasonal, and organic produce and foodstuffs.

### *Keep the students involved*

Begin each class with a thorough introduction of ingredients and methods. Establish diverse tasks for students to accomplish, such as washing, chopping, and grinding. Encourage the students to taste often as they work. Arrange students into groups of two to take turns at the stovetop. Designate jobs during cleanup so that everything is finished on time.

### *Use simple tools*

Use simple tools, such as graters, mortars, and pestles, and food mills, rather than equipment with motors. Make sure each small group has a separate and complete set of basic tools.

### *Share the meal*

Set the table with real plates, utensils, and a centerpiece to convey the value of the shared meal.

## KITCHEN AND GARDEN CLASSROOM MANAGEMENT

Some general guidelines that we have established at the Edible Schoolyard:

### *Establish procedures*

Structure classes around opening and closing “circles.” Begin each class with a greeting ritual. Set a specific time for cleanup and make sure students know that everything has its place: tools and boots on racks, gloves on hangers, and silverware in drawers. Set boundaries so students know where they can go and ensure there is adequate adult supervision.

### *Keep the work interesting*

Assign students to work in small groups. Make games out of assigning and finishing tasks to encourage students to approach their lessons creatively and exuberantly. Introduce challenging tools and advanced techniques later in the year, once students have become more familiar with the space and its routine.

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*For a list of resources and books that include an abundance of related information, please see Appendix I.*



# 5 THE NEXT PHASE

## INTEGRATING LUNCH

Our goal has always been to integrate the kitchen and garden program into the lunch program. Every day, as students line up for lunch, they face a contradiction between what they are taught at the Edible Schoolyard and what they are served at school. In our program, students learn about seasonality and how to care for the earth. They know where their food comes from, and they learn that fresh vegetables do taste good. When most students enter the lunchroom, they have no idea where their food comes from. They eat primarily reheated, processed food that has traveled thousands of miles before it reaches their trays.

In 2000, Berkeley voters passed a bond measure that allocated \$10 million to renovate the kitchens and cafeterias of Berkeley's public schools, including the construction of a cafeteria at King Middle School—the first dining facility on the campus since 1971. The Dining Commons at King Middle School is scheduled to open in fall 2008. Currently, King Middle School students retrieve lunch from a temporary facility on campus and then eat outdoors or in their classrooms.

Building on the success of the Edible Schoolyard, we envision a Dining Commons lunch program that will be integrated into ongoing classroom, kitchen, and garden curricula, reinforcing lessons about where our food comes from and how our everyday food choices affect personal health and community well-being. We hope that when the Dining Commons is completed, a healthy lunch will be an everyday, hands-on experience for students. We hope students will be involved in preparing, serving, and sharing this daily school meal with teachers and adult volunteers at communal tables, and that students will have opportunities to assist in the cleanup, composting, and recycling of waste in the lunchroom. We envision every child enjoying access to local, sustainable produce that is wholesome and delicious.

## AFFILIATE PROGRAMS

In summer 2006, the Chez Panisse Foundation established an affiliation with the Samuel J. Green Charter School in New Orleans to launch the Edible Schoolyard New Orleans (ESY NOLA). This is the first program modeled on the Edible Schoolyard at King Middle School, with not simply a garden or an upgrade of food but an integrated curriculum that includes academic coursework in all subjects and interactive lessons in the garden and kitchen. ESY NOLA envisions a lunch program that serves all its students organic food from local, sustainable farms.

We envision supporting a diverse number of formal affiliate programs throughout the United States, to encourage programs that can represent the country's different regions, varying climates, and diverse peoples and, like ESY NOLA, that are committed to our vision for public



education. We are in the process of developing a set of tools and a national training program that will eventually connect these affiliates and hundreds of educators, parents, chefs, funders, and other community members to our work.

## **IN CONCLUSION**

Since 1995, the Edible Schoolyard and King Middle School have been working together toward sustainability in education, environment, and nutrition for Berkeley's young people. Thanks to the tireless dedication of Alice Waters, the innovative and fearless teachers and administrators at King Middle School, and the committed gardening and cooking teachers, students, and families in schools throughout the Bay Area, this program has taught thousands of public school students about the relationship of food to life. We hope the information provided in this document helps guide the expansion of education about sustainability to every child in the nation.

## APPENDIX I

### RECOMMENDED RESOURCES

For activity guides and classroom tools that link academic content standards to gardens, nutrition, cooking, recycling, and the environment, refer to these publications offered by the California Department of Education Press:

*Child's Garden of Standards: Linking School Gardens to California Education Standards, Grades Two through Six* (2002)

Fresh Fruit and Vegetable Photo Cards

*Kids Cook Farm-Fresh Food* (2002)

*Nutrition to Grow On: A Garden-Enhanced Nutrition Education Curriculum for Upper Elementary School Children* (2001)

California Department of Education Press  
1430 N Street  
Sacramento, CA 95814

Phone: (800) 995-4099  
Website: [www.cde.ca.gov/re/pn/rc](http://www.cde.ca.gov/re/pn/rc)

*Linking Food and the Environment (LiFE): An Inquiry-Based Science and Nutrition Curriculum*

Teachers College, Columbia University  
Program in Nutrition and Education  
525 West 120TH Street, Box 137  
New York, NY 10027

Phone: (212) 678-3480  
Email: [LiFEatTC@columbia.edu](mailto:LiFEatTC@columbia.edu)  
Website: [www.tc.edu/life/](http://www.tc.edu/life/)

*Digging Deeper: Integrating Youth Gardens into Schools and Communities*  
by Joseph Kiefer & Martin Kemple, with a foreword by Alice Waters

Common Roots Press  
64 Main Street  
Montpelier, VT 05602

Phone: (800) 310-1515 or (802) 223-1515  
Email: [rgarr@grass-roots.org](mailto:rgarr@grass-roots.org)  
Website: [www.grass-roots.org/usa/foodworks.shtml](http://www.grass-roots.org/usa/foodworks.shtml)

***Teacher Resource Guide: A Guide to Educational Materials about Agriculture***

California Foundation for Agriculture in the Classroom

2300 River Plaza Drive

Sacramento, CA 95833-3293

Phone: (800) 700-AITC

Email: [cfaitc@cfaitc.org](mailto:cfaitc@cfaitc.org)

Website: [www.cfaitc.org](http://www.cfaitc.org)

***Food Is Elementary: A Hands-On Curriculum for Young Students***

**by Antonia Demas, Ph.D., edited by Carolyn Landis**

Food Studies Institute, Inc.

60 Cayuga Street

Trumansburg, NY 14886

Phone: (607) 387-6884

Email: [info@foodstudies.org](mailto:info@foodstudies.org)

Website: [www.foodstudies.org](http://www.foodstudies.org)

**California School Garden Network**

Website: [www.csgn.org](http://www.csgn.org)

**The Center for Ecoliteracy**

Website: [www.ecoliteracy.org](http://www.ecoliteracy.org)

**Yale Sustainable Food Project**

Website: [www.yale.edu/sustainablefood](http://www.yale.edu/sustainablefood)

## APPENDIX II

### KEY STAFF JOB DESCRIPTIONS

#### The Edible Schoolyard Garden Manager and Teacher

Full-time position, salary range (in the Bay Area) of \$38,000–\$48,000. The Garden Manager and Teacher oversees all aspects of the garden.

*Designs* and leads garden classes for all students, and facilitates lesson and garden planning.

In tandem with the garden assistants and volunteers, guides students through all aspects of planting, cultivation, and maintenance of the garden.

*Liaises* with the Chef Teacher to coordinate plantings and harvests in tandem with kitchen lesson plans. Stays abreast of areas of classroom study to ensure coordination of garden lessons. Works with classroom teachers to develop garden lessons that are integrated into the school's curriculum.

*Provides* consistent leadership, develops the garden team, and serves as a role model and mentor to students. Fosters cooperation and interaction; initiates and facilitates communication with staff, teachers, and administration. Maintains an engaging and rewarding experience for volunteers. Welcomes visitors, coordinates classes with media visits, gives interviews, and participates in events and community outreach.

*Works* closely with the Chez Panisse Foundation to develop program goals and ensures accurate dissemination of information to the garden team.

*Maintains* the garden as an integral part of the school and provides a welcoming working environment for all. Maintains the cleanliness, order, and aesthetic of the garden. Ensures that equipment and tools are in safe working order and that necessary repairs are made in a timely manner.

*Works* in tandem with the Program Coordinator to establish yearly budget forecasts and operates within those forecasts.

#### The Edible Schoolyard Chef Teacher

Full-time position, salary range (in the Bay Area) of \$38,000–\$48,000. The Chef Teacher oversees all aspects of the kitchen classroom.

*Designs* and leads kitchen classes for all students, and facilitates lesson and recipe planning.

In tandem with kitchen assistants and volunteers, guides students through all aspects of preparing, serving, and eating the garden's harvest.

***Liaises*** with the Garden Manager to coordinate planting and harvests in tandem with kitchen lesson plans. Stays abreast of areas of classroom study to ensure coordination of kitchen lessons. Works with classroom teachers to develop kitchen lessons that are integrated into the school's curriculum.

***Provides*** consistent leadership, develops the kitchen team, and serves as a role model and mentor to students. Fosters cooperation and interaction; initiates and facilitates communication with staff, teachers, and administration. Maintains an engaging and rewarding experience for volunteers. Welcomes visitors, coordinates classes with media visits, gives interviews, and participates in events and community outreach.

***Works*** closely with the Chez Panisse Foundation to develop program goals and ensures accurate dissemination of information to the kitchen team.

***Maintains*** the kitchen classroom as “heart and hearth” of the school, providing a welcoming working environment for all. Maintains the cleanliness, order, and aesthetic of the kitchen. Ensures that equipment and appliances are in safe working order and that necessary repairs are made in a timely manner.

***Works*** in tandem with the Program Coordinator to establish yearly budget forecasts and operates within those forecasts.

## **The Edible Schoolyard Teacher Liaison**

Twenty percent full-time equivalent position. The Teacher Liaison facilitates curricular integration between the school, garden, kitchen, and lunchroom, and is a proponent of the Edible Schoolyard program.

***Schedules*** classes and grade-level rotations. Ensures that all King Middle School students have access to the kitchen and garden classrooms to the greatest extent possible.

***Attends*** Edible Schoolyard staff meetings and solicits and integrates feedback from school administrators, teachers, and the Edible Schoolyard Advisory Committee. Serves as the teacher spokesperson for visitors, press, and documentation projects.

***Encourages*** the use of the garden and kitchen for academic classroom purposes and supports the development and implementation of related lessons. Facilitates the development of integrated lesson plans and curricular links between standards-based classroom instruction and activities in the kitchen and garden. Coordinates meetings between classroom teachers and kitchen and garden staff members.

***Organizes*** and manages special events at the school that are related to the garden and kitchen. Supports the Chez Panisse Foundation fundraising and school outreach efforts.

### **The Edible Schoolyard Program Coordinator**

Full-time position, salary range (in the Bay Area) of \$38,000–\$48,000. The Program Coordinator is responsible for all aspects of the kitchen and garden classrooms and connections to the school, board of directors, and community.

***Represents*** the program and solicits and integrates feedback from school administrators, teachers, the Chez Panisse Foundation Board, and the Edible Schoolyard Advisory Committee. Collaborates with the Teacher Liaison to establish class schedules, participates in grade- and department-level meetings, and guides standards-based lesson development.

***Cultivates*** and maintains community relationships that ensure the long-term health of the program. Maintains awareness of school, civic, and national developments around sustainable agriculture, education, and school lunch. Fields visitor requests and media interest. Develops collateral materials, event flyers, and press packets.

***Coordinates*** volunteer screenings, orientations, trainings, and scheduling. Produces the volunteer handbook and sign-in sheet, and maintains records binder. Updates volunteers weekly on school events and schedule changes.

***Conducts*** annual program evaluations measuring teaching practice, student and parent feedback, community involvement, and garden productivity. Conducts annual staff performance evaluations and facilitates staff development opportunities.

***Facilitates*** integration of the kitchen and garden classroom curricula with the school curricula. Supports garden and kitchen teachers in the development and implementation of lessons. Evaluates the success of teaching practices, lessons, and kitchen and garden “classroom culture.”

***Represents*** the kitchen and garden program at school faculty meetings, PTA meetings, and school-wide staff development events. Produces the parent/student newsletter, school event flyers, and email announcements. Creates school bulletin boards. Coordinates participation and facilities-sharing in school events, clubs, after-school programming, and community events.

***Assists*** in grant writing, solicits in-kind donations, and produces year-end report.

***Establishes*** and manages the annual program budget, monitors all expenditures and maintains records, and creates and manages special project and event budgets.

## The Edible Schoolyard Advisory Committee

An Advisory Committee may comprise the school principal and teachers from each grade level and/or department, and may include a parent and/or student representative. The Advisory Committee exists to:

***Facilitate*** a fully integrated curriculum in the classroom, lunchroom, garden, and kitchen.

***Provide*** guidance to school staff about curriculum integration and evaluate student outcomes.

***Communicate*** and coordinate components of the program, including school and community outreach, teacher support, and development.

***Advise*** on the program's educational aspects, including pedagogy, curriculum, and local, state, and federal issues related to school and kitchen projects.

***Drive*** school-based fundraising, solicit PTA support, and coordinate school events.

***Act*** as a conduit for information between the Chez Panisse Foundation and the school.

***Support*** communication of the “big picture.”

## APPENDIX III

# ESSENTIAL MATERIALS

## Garden Classroom Materials

Sturdy, high-quality tools and well-maintained, attractive outdoor equipment are important to a high-quality garden program.

### *Hand tools*

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Shovels	Saws
Trowels	Crowbar
Forks	Pickaxes
Rakes	Machetes
Hoes	Carpentry materials
Kneelers	Trellis materials: bamboo, twine, wire
Clippers, pruning tools	

### *Equipment*

---

Watering cans and watering wands	Soil amendments
Hoses and sprinklers	Seed-starting mats
Mower, weed whacker	Seeding trays
Wheelbarrows, hand truck	Six-pack, quart, and gallon containers
Harvest baskets	Aprons, boots, gloves, hats, goggles
Post-hole digger	Dry-erase board and markers
Scale to weigh harvested produce	First-aid kit

### *Outdoor structures*

---

Outdoor classroom: circle of straw bales to sit on	Tool shed (with shelving and hooks)
Bulletin boards	Tool-cleaning station: wire brushes, sand mixed with linseed oil
Irrigation system: hoses, valves, soaker hoses	Storage carts for tools
Composting bin(s) or area	Chicken coop: roosts, perches, feed, water buckets
Worm composting bin	
Greenhouse	
Seedling tables	



### *Outdoor cooking and dining*

---

Propane burner  
Outdoor grill

Outdoor oven  
Picnic tables

### *Plants and organic materials:*

---

Seeds and starts: vegetables,  
herbs, annual flowers,  
bulbs  
Perennial flowers, shrubs,  
and herbs

Fruit trees  
Wood chips for paths  
Worms for the worm  
composting bin

## **Kitchen Classroom Materials**

High-quality tools and professional equipment are essential to students' safe and productive work in the kitchen classroom.

### *Appliances and infrastructure*

---

Dishwasher, commercial  
Griddle, commercial  
Oven, commercial convection  
Refrigerator, three-door reach-in

Stove for each workstation  
Washer and dryer  
Work tables  
Storage cabinets

### *Small wares*

---

Mixing bowls, assorted sizes  
Cutting boards (wood and  
color-coded plastic)  
Mortar/pestle  
and *molcajetes*  
Citrus juicer (press)

Colanders  
Mesh strainers  
Chinois strainer  
Salad spinners  
Food mills  
Shakers

### *Hand tools*

---

Stainless-steel and wood  
spoons, assorted sizes  
Whisks, assorted sizes  
Ladles, assorted sizes  
Tongs, short and long

Rolling pins  
Paring knives  
Bread knives  
Chef knives  
Wavy knives

Measuring cups  
Measuring spoons  
Clear liquid measuring  
beaker  
Zesters  
Peelers

Graters  
Salt shaker and  
pepper grinder  
Garlic peeler  
Wood citrus  
reamer

### *Cookware*

---

Cast-iron skillets, assorted  
sizes  
Saucepans (two-, three-, and  
four-quart)

Sauté pans  
Stockpots  
Sheet pans, full  
and half

### *Tableware*

---

Silverware: knives, forks,  
soup/teaspoons  
Soup bowls  
Dinner plates  
Salad plates  
Serving bowls

Serving platters  
Sauce bowls  
Napkins  
Tablecloths  
Vases

### *Supplies*

---

Cleanup job cards  
Art supplies: colored pens,  
pencils, markers, yarns,  
ribbons, watercolors,  
fabric  
Dishwashing racks, gloves

Iron and  
ironing board  
Towels  
Cleaning supplies  
Fire extinguishers  
First-aid kit

## APPENDIX IV

### SAMPLE START-UP BUDGET

The following budget estimates the costs of establishing from scratch a program similar to the Edible Schoolyard that will serve 900 students per year. The Edible Schoolyard was launched with a seed grant of \$10,000 and a small number of participants. The program has expanded over the past 10 years to include a full one-acre garden, a kitchen, and classes for every child at Martin Luther King Jr. Middle School. Salaries for staff and teachers reflect the cost of living in the San Francisco Bay Area. Equipment and supplies expenses are offset by in-kind donations.

<i>Staff</i>	<i>YEAR ONE</i>	<i>ONGOING ANNUAL</i>
Program Coordinator (100% FTE)	\$40,000+	\$40,000+
Teacher Liaison (20% FTE)	\$18,000	\$18,000
Garden Manager and Teacher (100% FTE)	\$40,000+	\$40,000+
Chef Teacher (100% FTE)	\$40,000+	\$40,000+
<i>Kitchen classroom</i>		
Equipment and furnishings	\$15,000	\$1,500
Tools and supplies	\$5,000	\$1,500
Food	\$5,000	\$5,000
<i>Garden</i>		
Equipment and hardscape	\$15,000	\$1,500
Tools and supplies	\$5,000	\$1,000
Seeds and plants	\$1,000	\$1,000
<i>TOTAL</i>	\$184,000	\$149,500

## APPENDIX V

### FUNDRAISING & COMMUNITY SUPPORT STRATEGIES

The Edible Schoolyard is a program of the Chez Panisse Foundation, fully funded by the Foundation through the support of grants as well as by individual and corporate donors. For more information on our donors, see the Chez Panisse Foundation Annual Report on our website: [www.chezpanissefoundation.org](http://www.chezpanissefoundation.org).

We also suggest the following to engage the community and raise support:

#### **Hold community garden work days.**

Share the work of garden upkeep while building a strong garden community by holding Community Work Days. Gradually, create a core group of regular community volunteers to help with maintenance and construction projects outside the “classroom” day. Collect contact information to thank volunteers and inform them of upcoming events.

Preparing for a Community Work Day can also be a community-building opportunity. Adults and students should help to gather supplies and support.

#### *Donations to seek*

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- Printing costs for flyers
- Tools—ask volunteers to bring labeled hand tools and gloves
- Refreshments
- Volunteer leaders—knowledgeable master gardeners or staff time donated by a local nursery

#### *Projects for students*

---

- Making flyers and posters to advertise the event
- Leading work groups on various tasks and areas of the garden
- Preparing and serve refreshments and snacks
- Making thank-you cards

## Hold a plant sale.

Sell vegetable starts, flowers, and perennials grown by students at an annual plant sale. This is a great way to support students' work in the garden, involve parents and community members, and engage local businesses.

An annual event requires much planning and work, even before the day of the event. Begin early with volunteer and student help to gather the following supplies and complete the preparations.

### *Donations to seek*

---

Seeds from companies that will donate outdated but still viable seed packets  
Plants from nurseries and farms that will donate leggy or oversown vegetable starts  
Seeding trays, containers, watering cans from local nurseries and hardware stores  
Expertise from community gardeners who can help lead the delicate task of propagation

### *Projects for students*

---

Collecting and saving seeds as plants die in the fall  
Illustrating seed packets and signs describing plants  
Building compost to make potting soil mix  
Sowing and transplanting seedlings  
Illustrating flyers and posters to advertise the event  
Accounting, measuring gross and net incomes, counting change

## **Make a wish list.**

Local businesses and community members often find it easier to make an in-kind contribution to the project than to give a monetary donation. Sharing a wish list with parents and neighbors can spark their interest in supporting the garden, kitchen, and school.

### *Ideas for a wish list*

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Seeds, plants, bulbs, and trees  
30 pairs of gardening gloves in assorted sizes  
30 durable kitchen aprons  
10 pairs of rubber boots  
Wheelbarrows and garden tools in good working condition  
Hoses, sprinklers, and drip irrigation equipment  
A handyperson with tools and skills for small repairs and minor carpentry  
A digital camera  
Bulk organic and/or local staple foods like olive oil, rice, sugar, and spices  
Bales of straw for the outdoor garden classroom  
Vases for flowers  
Harvest baskets

## APPENDIX VI

# HISTORY OF THE EDIBLE SCHOOLYARD, 1995–2008

### 1995

Alice Waters and Martin Luther King Jr. Middle School principal Neil Smith meet to discuss the possibility of a garden at the school.

A garden committee is created and includes local members of gardening, business, and educational communities.

The mission statement is developed.

A fundraising benefit and Mexican feast are held, with a slide show by farmer, author, and photographer Michael Ableman.

Alice Waters holds citrus tastings for staff and students on the front lawn of King Middle School.

A vision of the future garden is shared at a symposium composed of chefs, teachers, gardeners, landscape architects, businesses, school administrators, and community craftspeople.

The adobe oven is built.

An after-school kitchen class is offered to King Middle School students.

### 1995–96

The Steering Committee is formed.

Vermiculture and recycling programs are initiated.

Staff development includes visits to local gardens and Green Gulch Farm.

Terra Firma Farms delivers produce in community-supported agriculture boxes for cooking classes.

The sixth-grade classrooms prepare food twice a month.

Asphalt removal begins at the garden site.

A Cover Crop Planting Ceremony is held with an Aztec dance group.

The first cover crop of bell beans, fenugreek, crimson clover, oats, and two vetches is planted to cleanse and improve the soil.

The first Edible Schoolyard Summer Program takes place.

## 1996–97

Sixth-grade classes work in the garden three times a month and seventh-grade classes once a month.

A fundraiser is held at Sur La Table with foods prepared by Bay Area chefs and their children.

Alice Waters speaks at the “A Garden in Every School” conference.

King Middle School’s unused cafeteria is renovated as a kitchen classroom.

A Kitchen Warming celebrates the opening of the kitchen classroom.

Every student attends two kitchen classes in the spring.

Terra Firma community-supported agriculture boxes continue to be used in the kitchen classroom.

The kitchen classroom cooks with the garden’s crop of mache, arugula, mustards, lettuces, kale, bok choy, carrots, turnips, beets, garlic, fava beans, and potatoes.

## 1997–98

Sixth- and seventh-grade classes attend garden classes twice each week.

In the fall, seventh-grade classes attend kitchen classes three times a month.

During the spring, sixth- and eighth-grade classes are in the kitchen twice a month.

A full-time intern from the California Culinary Academy provides assistance in the kitchen classroom.

The Center for Ecoliteracy Curriculum Grant provides two garden “mentor teachers.”

Students, parents, and members of the King Middle School community build an ecologically crafted toolshed designed by Wowhaus founder Scott Constable.

The Edible Schoolyard hosts Family Writing Night.

Chefs, designers, teachers, and architects attend the Kitchen and Cafeteria Design Charette to share visions of the future King Middle School lunch program with staff from the Edible Schoolyard and the Center for Ecoliteracy.

The garden’s notable plantings are citrus trees, apples, plums, ground cherries, black currants, hazelnuts, figs, raspberries, edible bamboo, sweet bay, kiwi, scarlet runner beans, chocolate vine, hibiscus, jasmine, passionflower, and chayote.



## 1998–99

Alice Waters receives an “Excellence in Education” award from California Senator Barbara Boxer and a U.S. Department of Education “Educational Heroes” award from U.S. Secretary of Education Richard C. Riley.

Two ongoing AmeriCorps positions are created and staffed through a partnership with the Bay Area Youth Agency Consortium.

Mr. Rogers and the *Mister Rogers’ Neighborhood* TV crew shoot an episode in the garden with King Middle School students.

The Apple Espalier is constructed and planted with 11 trees grafted at the Edible Schoolyard.

The students enjoy the garden’s crops of corn, blackberries, lemon verbena, mint, gourds, tomatoes, onions, leeks, peppers, basil, parsley, broccoli, and collard greens.

## 1999–2000

The Berkeley Unified School District (BUSD) adopts a food policy emphasizing organically grown produce in meal programs.

Delaine Eastin, State Superintendent of Public Instruction and founder of the School Garden Project, visits the Edible Schoolyard.

*The Oprah Winfrey Show* TV crew films in the garden and interviews Alice Waters.

A family dinner prepared by King Middle School students is held in May 2000 in the kitchen classroom.

New plantings include pear trees, asparagus, loquat, chives, mulberries, grapes, cape gooseberries, peas, pole beans, and bush beans, all of which are prepared and enjoyed in the kitchen classroom.

## 2000–01

The Edible Schoolyard website goes online.

Students create wreaths from garden materials and harvest vegetables with the garden staff for a holiday wreath sale and produce giveaway.

The Edible Schoolyard offers a free, healthy breakfast to all King Middle School students during the week of standardized statewide SAT-9 testing; almost 400 students eat breakfast daily, with hot oatmeal and satsuma tangerines becoming favorites.

Antique plum, pear, and apple trees grafted at the Edible Schoolyard are transplanted throughout the garden and donated to other local school and community gardens.

## 2001–02

As King Middle School undergoes earthquake retrofitting, most classes are held in temporary buildings while the campus becomes a construction site.

The kitchen classroom is relocated to a bungalow adjoining the garden; designers and craftspeople refurbish the space and transform a temporary classroom into a beautiful working kitchen.

The garden's newest additions, a quartet of Araucana hens, are raised by garden teachers and an after-school class.

The Edible Schoolyard and the Center for Ecoliteracy collaborate on a pilot all-day workshop for local garden and kitchen educators, held at King Middle School.

The SHAPE Network and the Edible Schoolyard offer two afternoon workshops for Nutrition Services employees from Mount Diablo and BUSD.

Students and staff rebuild the outdoor oven; the first pizzas are baked during the summer program.

Young olive trees donated by Cannard Farms are planted around the garden perimeter.

## 2002–03

Six hundred King Middle School students make pizzas in the garden's outdoor oven.

Eighth-grade students prepare foods that represent each major culture from the colonial period of U.S. history.

The Edible Schoolyard collaborates with BUSD Nutrition Services to prepare and serve free hot breakfasts during SAT-9 testing week in April 2003.

A benefit premier of the PBS American Masters film *Alice Waters and Her Delicious Revolution*, is hosted by the Chez Panisse Foundation to support construction of a greenhouse in the garden.

Nearly 40 California educators visit the Edible Schoolyard through the statewide Linking Education and Fitness (LEAF) grant.

Grains from the garden are prepared and eaten in kitchen lessons about staple foods in world history, including wheat, barley, corn, amaranth, quinoa, millet, and flax.

## 2003–04

The Ramada, the garden’s central “classroom,” is rebuilt using timber harvested from Occidental Arts and Ecology Center with help from students and friends from OAEC.

Research studies are undertaken at King Middle School by faculty and students at the UC Berkeley Department of Education and the UC Berkeley Department of Natural Resources.

Students from UC Berkeley’s Biology Scholars Program volunteer and mentor students in the garden, and former King Middle School students return from Berkeley High School to volunteer in the garden and kitchen.

King Middle School sixth-grade students and teachers participate in the Edible Schoolyard Seed-to-Table Immersion Project: two days of intensive learning and community building in the garden and kitchen, including lunch, piloting the incorporation of lunch into the instructional day to support California Content Standards.

Craftsman Peter Doolittle and King Middle School students build a chicken tractor using recycled materials.

The Aquatic Outreach Institute holds weekend garden teacher trainings at the Edible Schoolyard.

The UC Botanical Garden holds a Summer School Garden Teacher Training Institute at the Edible Schoolyard.

Nearly 1,000 local, national, and international visitors come to the garden and kitchen; most are educators and parents starting similar projects. Visitors include California First Lady Maria Shriver and California State Secretary of Agriculture A.G. Kawamura.

The garden’s fruit trees bear substantial crops, including a student favorite, kiwis, and enough Seville oranges for marmalade. Other notably successful crops include 300 pounds of winter squash and 13 varieties of heirloom shelling beans.

## 2004–05

In June 2004, the BUSD School Board enters a partnership with the Chez Panisse Foundation, the Center for Ecoliteracy, and Children’s Hospital Oakland Research Institute, officially launching the School Lunch Initiative.

The Edible Schoolyard merges with the Chez Panisse Foundation.

Construction begins on the King Middle School Dining Commons.

Students in King Middle School's Eastlab technology class digitally document Dining Commons construction.

The School Lunch Initiative offers four district-wide all-day workshops for garden, kitchen, and classroom teachers to begin rethinking school lunch.

Chef and author Ann Cooper consults with the Chez Panisse Foundation on the School Lunch Initiative.

Students and teachers at King Middle School form a "Kids for Slow Food Club."

The Smithsonian Folklife Festival highlights the Edible Schoolyard in a two-week exhibit on the National Mall in Washington, D.C., staffed by the Edible Schoolyard and attended by more than 1 million visitors.

Alice Waters hosts lunches at the Folklife Festival to foster legislative and governmental support of the School Lunch Initiative. They are attended by legislators, chefs, and philanthropists.

During the summer months, the Edible Schoolyard garden provides produce to the Women's Daytime Drop-In Center in Berkeley, the Richmond Senior Center, and the People's Grocery.

UC Botanical Institute offers summer teacher trainings in the Edible Schoolyard garden.

## 2005–06

Jonathan Kozol, author of *Savage Inequalities: Children in America's Schools*, speaks at King Middle School at a benefit event for the School Lunch Initiative.

The Prince of Wales and Duchess of Cornwall visit the Edible Schoolyard.

The Edible Schoolyard holds its first four-week intensive summer program, "Farm to Fork: Food Justice."

Sixth-grade teachers elect to develop and implement an integrated curriculum in 2006–07 in support of the School Lunch Initiative.

Eric Schlosser launches the book tour for his book *Chew on This: Everything You Don't Want to Know about Fast Food* with his first-ever student assembly at King Middle School.

The Chez Panisse Foundation establishes its first affiliate program, the Edible Schoolyard New Orleans, at the Samuel J. Green Charter School in New Orleans.

## 2006–07

The Edible Schoolyard offers a series of garden trainings, led by environmental activist and author Wendy Johnson in the Edible Schoolyard garden, for garden educators across BUSD.

The Edible Schoolyard staff participates in district-wide staff development trainings for BUSD Nutrition Services personnel, garden educators, and cooking instructors.

The Edible Schoolyard Chef Teacher and Assistant Chef Teacher lead cooking instructors from BUSD schools in a series of kitchen workshops.

Students and staff harvest 1,059 pounds of vegetables, 300 ears of corn, and 289 eggs in the Edible Schoolyard garden; more than 30 varieties of heirloom tomato seedlings are grown from seeds saved from the previous fall's tomato harvest.

Sixth-grade students “travel to Mesopotamia” in the garden. Life-altering innovations such as the development of tools, houses, and irrigation and the domestication of plants and animals are explored through hands-on activities linking classroom curricula to the garden.

The Edible Schoolyard staff members are delegates to Terra Madre in Turin, Italy.

King Middle School students create an original stage adaptation of *Seedfolks*, a play based on the novel by Paul Fleischman, as part of an integrated humanities core unit related to the School Lunch Initiative.

## 2007–08

Edible Schoolyard staff develop Four Amazing Lessons for eighth-grade students; the children harvest tomatoes and basil to make and preserve tomato sauce and pesto in the fall. In the spring students grind grain, prepare ingredients and dough, and enjoy the preserved sauces on pizza cooked in the outdoor oven.

The Edible Schoolyard garden yields a harvest of 2,296 pounds of produce, 202 herb bunches, and 782 eggs.

Community member Lou Dixon, with the help of staff and students, completes the installation of a solar pond in the garden that includes plants and fish.

Sixth-grade students “travel to Egypt” in the garden as part of a sixth-grade project, engaging in hands-on lessons studying the Egyptians’ use of grain, diet, and the construction of the pyramids.

In the kitchen, sixth-grade students integrate storytelling and cooking while preparing dishes from culinary regions and cultures as they “travel the Silk Road.”

Edible Schoolyard staff teach after-school enrichment classes in the garden and kitchen: Garden Club, Crafty Gardeners, and Sandwiches by the Dozen.

Students and staff plant a tea garden in the southeast corner of the garden.

Edible Schoolyard staff and students implement a water catchment system to harvest unchlorinated rainwater.

The garden expands mushroom cultivation to include oyster, shiitake, and portobello, and it yields a harvest of 48 pounds of mushrooms.

Edible Schoolyard staff and a classroom teacher are invited to Berkeley’s sister city, Sakai, Japan, to host a seminar on Edible Education.

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## About the Chez Panisse Foundation

Founded by Alice Waters in 1996, the Chez Panisse Foundation develops and supports educational programs that use food traditions to teach, nurture, and empower young people. The Foundation envisions a curriculum, integrated with the school lunch service, in which growing, cooking, and sharing the food at the table gives students the knowledge and values to build a humane and sustainable future. The Edible Schoolyard is a program of the Chez Panisse Foundation.

For a list of other publications and resources from the Chez Panisse Foundation please visit our website at [www.chezpanissefoundation.org](http://www.chezpanissefoundation.org).

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