FRESHFARM FOODPRINTS

an academic approach to growing healthy students through cooking and gardening

freshfarm.org/foodprints

GOALS & REACH

FRESHFARM FoodPrints aims to improve health and education outcomes of children and families in partnership with Washington, DC, public schools by integrating hands-on gardening, harvesting, and cooking experiences with nutrition and science education in school gardens and teaching kitchens. FoodPrints provides opportunities for students and families to:

- Increase knowledge about and consumption of fresh fruits and vegetables.
- Develop preferences for nutritious foods and build confidence and skills to prepare nutritious recipes.
- Get involved in urban gardening and understand where food comes from
- Engage in meaningful, real-world applications of math, science, reading, writing, social studies, and health curricula.

Goals

- Make positive changes in students' and families' knowledge about and preference for nutritious, seasonal foods.
- Increase opportunities for students to be actively engaged with academic content through real-world, hands-on learning about science, math, the environment, and health.
- Engage families as volunteers and participants in hands-on cooking and gardening.
- Make connections between urban students and their families and regional farmers, to promote food purchasing decisions that are environmentally and economically sustainable.
- Make connections between produce grown in school gardens, recipes prepared by students in FoodPrints kitchen classrooms, and scratch-cooked FoodPrints recipes served in school cafeterias.

Reach

In the 2017-18 school year, FoodPrints reaches:

- **4,300 students in DC Public Schools**
- **13 partner elementary schools, each with a flourishing edible school garden**
- **Wards 1, 2, 4, 5, 6, 7, 8 -- diverse sections of the city, including the highest-needs areas**
- **15% of DC public elementary school students**
- **A majority of students from underserved populations and high-poverty areas**
- **7 schools where 100% of the student populations are eligible for Free and Reduced Meals**
- **800 parent and community volunteers**

HOLISITIC MODEL

FoodPrints has developed a holistic, replicable model that integrates food, garden, and academic programming in schools with the following elements:

A FoodPrints Teacher who leads FoodPrints sessions and integrates the program with the school's goals, curricula, and community.

A Teaching Kitchen with cooperative cooking areas, student-friendly supplies, and indoor gardening space.

An Edible School Garden with multiple beds, plants, composting, and child-friendly gardening tools, where students experience growing and harvesting fresh, seasonal produce and learn where food comes from.

Library of Simple, Nutritious Recipes available online and sent home.

Program Leadership as provided by a program director, curriculum director, communications & grants manager, and bookkeeper.

Program Administration including payroll and insurance.

Curriculum aligned with Next Generation Science Standards, Common Core Standards, DC Public Schools project-based Cornerstones, the DC Environmental Literacy Framework, and state Health standards.

Support for FoodPrints Teachers through ongoing consultation, professional development, and support for planning and maintaining edible gardens as well as a detailed lesson plans.

Support for Funding and Implementation at partner schools through grant writing and reporting as well as coordinating interns and volunteers.

Support for the Next Generation of Food Educators by placing more than 25 university students, career changers, and retired community members as interns and volunteers in FoodPrints classrooms each year.

School Meals Partnership that brings scratch-cooked FoodPrints recipes to the school lunchroom, making important connections between the classroom, school garden, and lunchroom.

Evaluation Partnerships with university researchers to document impacts of the program and demonstrate outcomes.

Farm Shares that provide food access through weekly deliveries of fresh, local produce to families, staff and community members of participating schools.

NEEDS ADDRESSED

Hands-on experiences with nutritious food and the natural world in the dense, urban landscape of DC, parts of which have stark food deserts. FoodPrints provides PK3 through 5th graders across DC hands-on experiences with nutritious food, the natural world, and environmental education that are not readily available in our urban landscape. We partner with DC public elementary schools across the city. The student populations we serve are predominantly low-income; in 8 of the 13 schools we serve, 100% of the student population is eligible for Free and Reduced Meals. Three of our partner schools are located in the areas of Washington, DC, with the highest levels of poverty and starkest food deserts, and where it is hardest to get fresh produce. In all of our partner school communities, FoodPrints provides experiences with and access to fresh produce and nutrition and garden education that are not readily available to these school communities otherwise.

Capacity of public schools to offer integrated, hands-on academic-nutrition-gardening education to support academic learning. In DC, schools and teachers have many demands to ensure all students meet high standards. At FoodPrints partner schools, students benefit from hands-on lessons that reinforce grade-level standards and curricula, and support what is being taught in the classroom. FoodPrints provides each partner school with a trained nutrition-garden educator, a standards-based experiential curriculum, and an edible school garden.

Long-term, hands-on exposure to food and nutrition education necessary to make a difference in what families eat. Studies demonstrate that improved nutrition guidelines, farm-to-school policies, and fresh fruit and vegetable programs are only effective in changing attitudes and consumption when combined with hands-on experience with cooking and preparing food (Cunningham-Sabo et al. 2016). FoodPrints' holistic model helps students and their families gain knowledge of, preference for, and access to nutritious, whole, seasonal foods, and teaches simple ways to prepare them in a cooperative, joyful environment.

Training and support for future food and garden educators. In the 2017-18 school year, FoodPrints has placed more than 20 interns to support FoodPrints classrooms and expand horizons in food and garden education among university students, career changers, and retirees.

CURRICULUM

The FoodPrints curriculum is aligned with Next Generation Science Standards, Common Core Standards, DC Public Schools project-based Cornerstones, the DC Environmental Literacy Framework, and state Health standards. As the list of FoodPrints lessons below demonstrates, each lesson aligns with a core academic area.

SCIENCE

- Seed Dispersal
- Why Do Plants Have Different Parts?
- Plant and Animal Survival
- How Do New Plants Begin?
- Seeds, Bulbs, Tubers
- Germination
- Pollination
- Photosynthesis
- Decomposition
- Food Webs
- Then and Now: Cooking & Farming Technology
- Scientific Observations in the Garden
- Soil Composition
- Compost Stew
- Weather and Seasonality in the Garden
- Growing Vegetable Soup
- Conservation
- Habitats: Plant Survival
- Life Cycles
- The Garden Ecosystem
- Seasonal Food: Why Eat Local?
- Goodbye Winter, Hello Spring

MATH

- Identifying and Partitioning Shapes
- Garden Calculations: Perimeter and Area
- Seed Math
- Angles in the Garden
- Gathering and Analyzing Garden Data

HEALTH

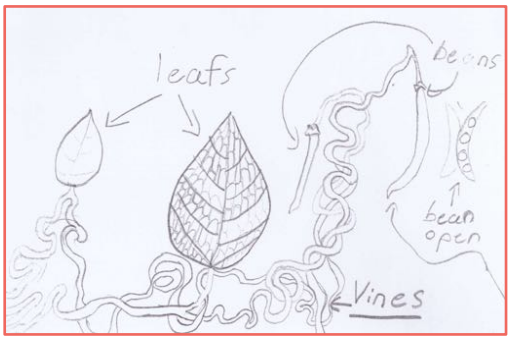
- Eat the Rainbow
- Independent Cooking & Following Directions
- Scaling Recipes
- Investigating Ingredients
- Why Choose Whole Grains?
- Food Choices: Nutrient Dense vs. Energy Dense
- Safety and Health in the Kitchen

SOCIAL STUDIES

- Mapping the School Garden
- Native Foods: 3 Sisters Companion Planting
- Activism &Food Justice
- World Cuisine &Family Food Traditions
- Farm and Garden Workers
- Westward Expansion
- Civil War Food
- Inventions
- Early America: The First Thanksgiving
- Influences of Advertising on Food Choices
- 5 Senses in the Garden

ENGLISH-LANGUAGE ARTS

- Food Folktales & Fables: Jack and the Beanstalk & Stone Soup
- Descriptive Language: Recipe of Me
- Persuasive Writing: Reduce-Reuse-Recycle
- Non-Fiction Texts: Garden Planning with Seed Catalogs



SAMPLE LESSON

SOIL: WHAT IT IS AND HOW TO TELL IF IT IS HEALTHY

Sample FoodPrints lesson

Gardening: Students harvest fall sweet potatoes and kale in the school garden, and examine different types of soil.

Academic content: Students collect samples of different types of soil from around the school building and garden. They spend time dissecting the soil samples with hand lenses and document their observations through drawing and writing. The FoodPrints teacher leads a discussion about the differences between fertile and non-fertile soils and their effects on plants – all connected to grade-level standards. Students draw and write in their journals to reinforce the soil concepts.

Cooking: Students, teachers, and parent volunteers peel and shred sweet potatoes for Sweet Potato Quesadillas, and de-stem and tear kale for Tuscan Kale Salad (a FoodPrints favorite recipe!) Families receive a letter from the FoodPrints teacher with information about the lesson and recipes prepared.

Eating: Everyone participating in the FoodPrints session receives a plate with the food they prepared. All eat together, savoring new flavors and often asking for seconds and thirds!

OUTCOMES

Research demonstrates that FoodPrints is a multi-dimensional program that provides real-world lessons based in academic content, and FoodPrints experiences produce positive outcomes on student knowledge of food and the environment, and student appreciation for nutritious food at school and at home.

Researchers observed:

- Lessons focused on real world application of core subject matter concepts in math, science, and language arts, often linked to content being covered by classroom teachers.
- Genuine enthusiasm to eat the food prepared in the FoodPrints' classroom and ample evidence of children trying food and liking the food they tried.

"I'm scared," a researcher overheard before a boy tried the food at the end of a FoodPrints session. He tried it and then gave an excited two thumbs up. Another boy said, "This is good. This is the first time I have eaten salad." Several kids took seconds.

Student describe what they learn in FoodPrints as:

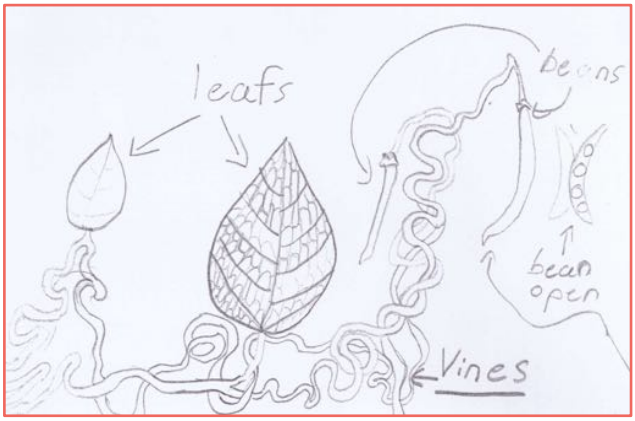
- How to identify which foods are nutritious
- Benefits of eating nutritious foods
- How to cook nutritious foods
- That nutritious food can taste good
- How to care for a garden
- What plants need to grow
- How to plant and harvest food
- The 3 Rs: reducing, reusing, and recycling
- Composting and caring for the environment

"Eating nutritious food like fruits and veggies will help you grow smarter, healthier, and stronger."
- 5th grader at Tyler Elementary

"FoodPrints is an important change agent, helping to positively frame children's relationship to food, shape schools' capacity for nutritional education, and support the broader academic mission of DC Public Schools."
- Dr. Amy Best, George Mason University

Families report that FoodPrints has a positive impact on their children's:

- Knowledge of nutritious foods and their willingness to eat these foods at home
- Interest in cooking nutritious food at home
- Nutrition and cooking knowledge



The FoodPrints research data above are gleaned from two sources:

A study conducted by Dr. Amy Best at George Mason University with 33 observations in two FoodPrints schools over the 2015-16 school year and a survey of 200 parents in the same schools to capture social competencies demonstrated and content comprehended by FoodPrints participants.

An open-ended questionnaire of students at six FoodPrints schools in the spring of 2017 on which 200 student respondents, grades PK4 through 5th grade, described what they had learned in FoodPrints about the environment and about food and nutrition.

SUSTAINABILITY

Every FoodPrints partner school continues to invest in the program year after year.

The program started 10 years ago at one elementary school and has grown steadily to its current capacity of serving 13 schools. One principal summed up our partner schools' commitment: "FoodPrints is the best community-based program in our school, and I'm committed to doing everything I can to keep it here." Principals and parent-teacher associations contribute to funding the program as they can through their annual budgets.

FoodPrints relies on diverse funding streams, but sustaining funding year to year is challenging.

Our funding sources include:

- *DC Public Schools.* The school district's Office of Food and Nutrition Services is currently funding a portion of the FoodPrints program.
- *Partner schools.* Many schools contribute a portion of the cost of FoodPrints programming from their school budget and/or their PTA.
- *District of Columbia.* We have successfully secured funding over several years from the Office of State Superintendent of Education's School Garden Grants and Environmental Literacy Advancement Grants.
- *Foundations.* About five private foundations currently support FoodPrints general operating expenses.
- *US Department of Agriculture.* A Specialty Crop Block grant supports two of our highest needs schools.
- *Local food businesses:* We partner with Washington's Green Grocer and Instacart to store and deliver fresh produce and grocery supplies to our schools at a reduced cost.

TESTIMONIALS

What teachers and principals say

"When we talk about education, we talk about tests and scores and rigor. But if I'm not eating appropriately, I can't keep up with your rigor, can I? So, really, FoodPrints… that's the first piece." – *1st grade teacher*

"The ability to welcome parents in a non-academic and non-threatening way as FoodPrints volunteers is invaluable. It gets more parents and grandparents in our building, interacting with our students, and observing and supporting cross-curricular learning." – *5th grade teacher*

"It's just critical that this kind of program gets into schools, across the city, regardless of the economic status of the neighborhood, and that it is sustained in some way." – *principal*

What parents say

"After we made Prosperity Peas together in the classroom, that meal became a staple and was repeated every week over the winter."

"Cooking with FoodPrints gives my children ownership of working in the kitchen and teaches them great skills."

"FoodPrints provides hands-on science and outdoor learning experiences … such practical connections to the world around us make learning more meaningful."

"I am impressed with how the FoodPrints curriculum builds on itself with each grade and the level of knowledge grows as well. The language and respect you have introduced around food has become important in our household. Nutrition and food choice is extremely important to us, and FoodPrints reinforces that approach in the school setting."

What students say

"It's fun – you harvest, cook, plant, and write in your journal. We learn about the environment, nutrition, food, and recycling. And the best part – COOKING and EATING!"

"I learned tomatoes, kale, and radishes, carrots, apples, oranges, salad, chicken, and rice are good for us because they are healthy."

"I learned about 'plant rulers,' when you have some tape, and each inch, you plant a seed … Sunlight helps grow plants and plants are important because they grow things we eat."

See FoodPrints in Action & Contact Us

Watch our FoodPrints video:
freshfarm.org/foodprints

See our more than 150 simple, low cost, produce-based, seasonal recipes:
freshfarm.org/foodprints-recipes

Contact us for a tour of FoodPrints or to learn more.

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