

DURHAM'S INNOVATIVE NUTRITION EDUCATION PROGRAM (DINE)

FFY22



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WHO WE ARE

Durham's Innovative Nutrition Education (DINE) program is a dynamic nutrition and physical activity program that focuses on **education**, **system changes**, and **social marketing**.



DINE is funded by USDA's SNAP-Ed Program and Durham County Government. DINE is housed in Durham County's Department of Public Health. DINE serves groups with at least 50% of participants eligible for SNAP (Supplemental Nutrition Assistance Program, formally known as food stamps).

WHAT WE DO

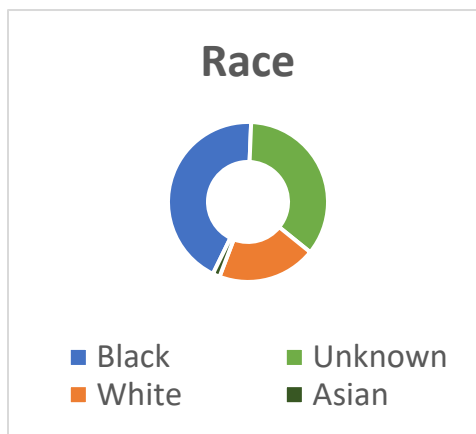
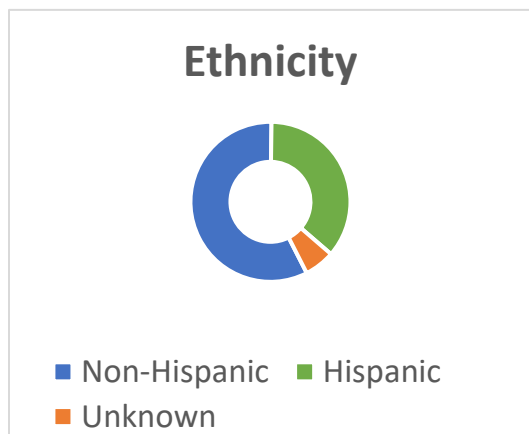
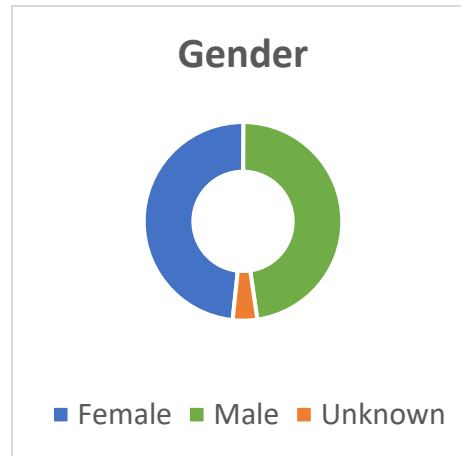
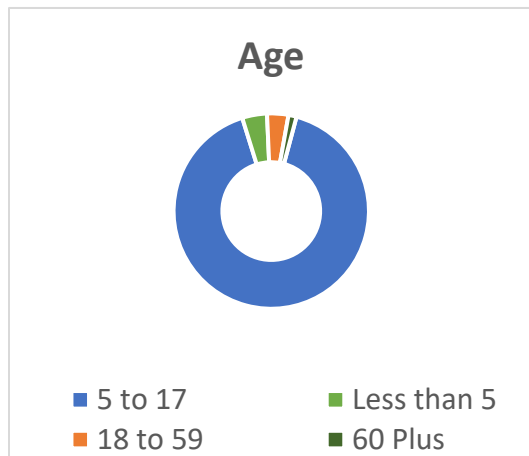
Registered Dietitians **teach** interactive lessons about healthy eating and physical activity throughout Durham County. In FFY22, DINE served 15 elementary schools, 6 middle schools, and 14 early care and education programs. The team participated in school-wide events, afterschool and gardening programs, and other wellness initiatives. Adults were reached at community organizations, parks, healthcare clinics and online.

Our environment influences how we eat. DINE partners with organizations to make the healthy choice the easy choice for Durham residents through facilitating **policy, systems and environmental (PSE) changes**.

DINE's **social marketing** campaign, Say Yes to Water, encourages Durham residents to drink more water through social media, an e-newsletter, workshops, health fairs, posters, and educational reinforcements such as free water bottles.



WHO WE SERVED



* Charts above do not include population groups reached that were less than 1%.

DINE Reach & Depth

Direct Education:

- 9,287 unique participants
- 26,907 duplicated participants
- 1,181 hours of education within 1,611 sessions

Policy, Systems, and Environmental Changes:

- 49 total changes adopted
- 20,612 unique individuals reached
- 29 sites

Say Yes to Water Social Marketing:

- 20,293 unique individuals reached
- 58 sites shared messaging

DINE Outcomes

Direct Education

- **73%** of the participants surveyed demonstrated increased knowledge of healthy food choices and the benefits of a healthy diet after receiving DINE teaching as reported in pre/post survey results for class series and post-survey for individual workshops.
- **63%** of survey respondents showed improved behavior related to healthy food choices after receiving DINE teaching as reported by pre- and/or post-surveys and parent surveys.

PSE

- **100%** of students in DINE schools were reached by nutrition and/or physical activity-related PSE changes as documented by surveys and observations.
- **27%** of individuals enrolled in participating DINE in Childcare programs were reached by PSE changes that improve dietary habits and/or increase physical activity as measured by pre/post-screening tool and/or program log.
- **38%** of participants at DINE supported food pantries were reached by PSE changes that allow for improvement in making healthy food choices, as evidenced by a screening tool, survey, and/or program log.
- **82%** of Double Bucks customers surveyed reported improved nutrition behaviors as reported by surveys at the farmers markets.
- **29%** of individuals taking the Durham Food Resources Map survey reported the map helped improve the convenience of/access to healthy food.

Social Marketing

- **19%** of individuals exposed to Say Yes to Water messaging showed improvement in making healthy food choices.

Direct Education

DINE in Schools

The team reached **8,507** unduplicated elementary and middle school students. Over **1,465** lessons were taught in Durham Public Schools (DPS) elementary and middle schools.

- **1,152** lessons in **17** DPS elementary schools
- **317** lessons in **6** DPS middle schools (47 virtual lessons)
- **85** of these lessons were outdoor nutrition and culinary classes to assist DPS meeting their outdoor education initiatives

New in FFY22:

- DINE offered Spanish text alongside English in slide decks. This was an effort to be more sensitive to the different learning needs in DPS schools.

Data Collection Methods:

Pre/post-survey data from students was collected to assess for nutrition-related behavior and knowledge change. Starting in the 2nd grade, students were assessed for knowledge changes, and behavior changes starting in 4th grade. Students were given a pre-survey, prior to nutrition classes and then a follow up post-survey after the nutrition class series. In addition, post-survey data from parents and teachers were collected both electronically and hard copy.

Students with both an identified pre and post survey were used and considered “matched”. Students showed an increase in knowledge by scoring higher on their post-screen than they did on their pre-screen. Similarly, students that consumed more fruits, vegetables, and water (and fewer sugar sweetened beverages) on their post-screen than they did on their pre-screen were said to have had a positive behavior change. School team data in this report includes information from matched surveys only.

	Approximate number of students taught	Number of matched surveys	Percent of students taught reflected in data
2nd Grade	937	190	20%
3rd Grade	748	103	14%
4th Grade	480	209	44%
5th Grade	240	88	37%
6th Grade	785	153	19%
7th Grade	507	209	41%
8th Grade	1303	263	20%

Results

Change in Behavior: Student Survey Results

Students in grades 4th – 8th were asked about nutrition-related behaviors. **Forty-six percent** (46%) of students showed an overall positive nutrition behavior change from pre- to post-survey.

- 4th grade students: 87 (42%)
- 5th grade students: 45 (51%)
- 6th grade students: 65 (42%)
- 7th grade students: 87 (42%)
- 8th grade students: 138 (52%)

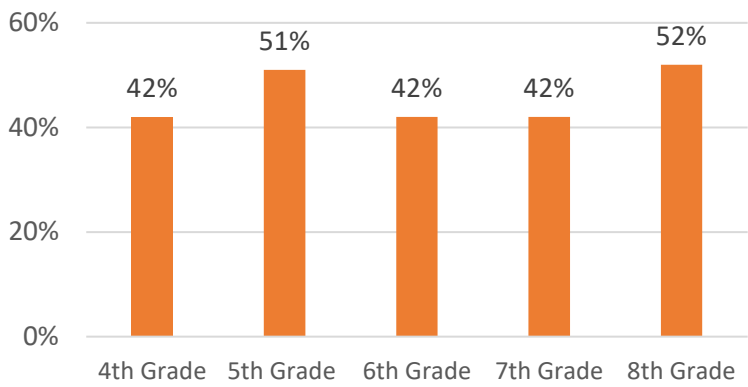
“I started drinking more water and less sodas.”

“I have tried to eat at least one fruit or vegetable each day.”

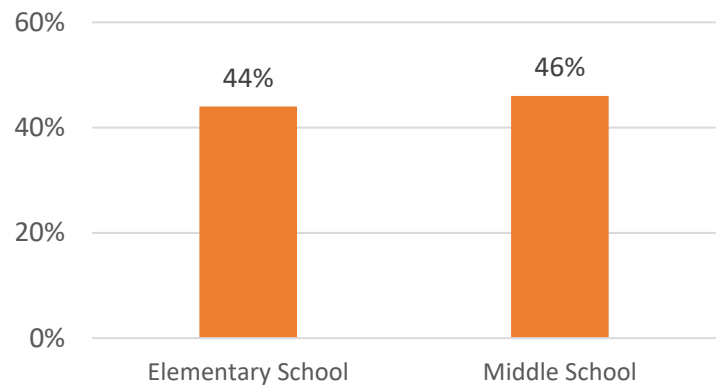
“I’ve started eating more healthy and paying attention to nutrition.”

-student comments

Students with positive nutrition-related behavior change after DINE classes

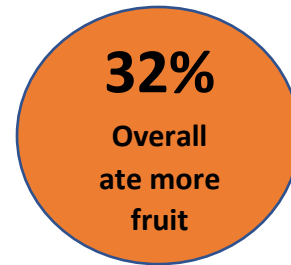


Students with positive nutrition-related behavior change after DINE classes



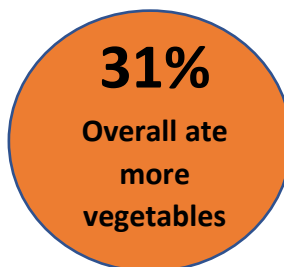
“Yesterday, did you eat any fruit?”

	Improved
4 th Grade	36%
5 th Grade	38%
6 th Grade	27%
7 th Grade	29%
8 th Grade	32%



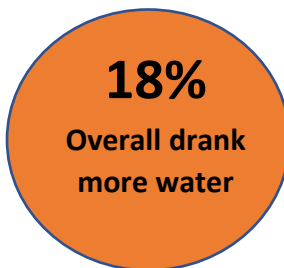
“Yesterday, did you eat any vegetables?”

	Improved
4 th Grade	31%
5 th Grade	35%
6 th Grade	35%
7 th Grade	25%
8 th Grade	32%



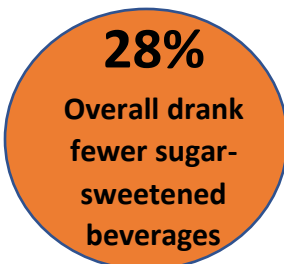
“Yesterday, did you drink any water, such as from a glass, a bottle, or a water fountain?”

	Improved
4 th Grade	23%
5 th Grade	23%
6 th Grade	16%
7 th Grade	15%
8 th Grade	17%



“Yesterday, did you drink any sweetened drinks likes regular (not diet) soda, fruit-flavored drinks, sports drinks, energy drinks or vitamin water? Do not count 100% fruit juice or diet drinks.”

	Improved
4 th Grade	27%
5 th Grade	24%
6 th Grade	26%
7 th Grade	30%
8 th Grade	29%



Note: for this question only, an improvement is defined as consuming *fewer* sweetened drinks

“Do you eat more than one kind of fruit each day?”

	Improved
5 th Grade	32%
8 th Grade	29%

Note: this question only asked in 5th and 8th grade

“Do you eat more than one kind of vegetable each day?”

	Improved
5 th Grade	29%
8 th Grade	27%

Note: this question only asked in 5th and 8th grade

As a result of DINE, caregivers say their child:

“likes to explain the benefits of eating healthy.”

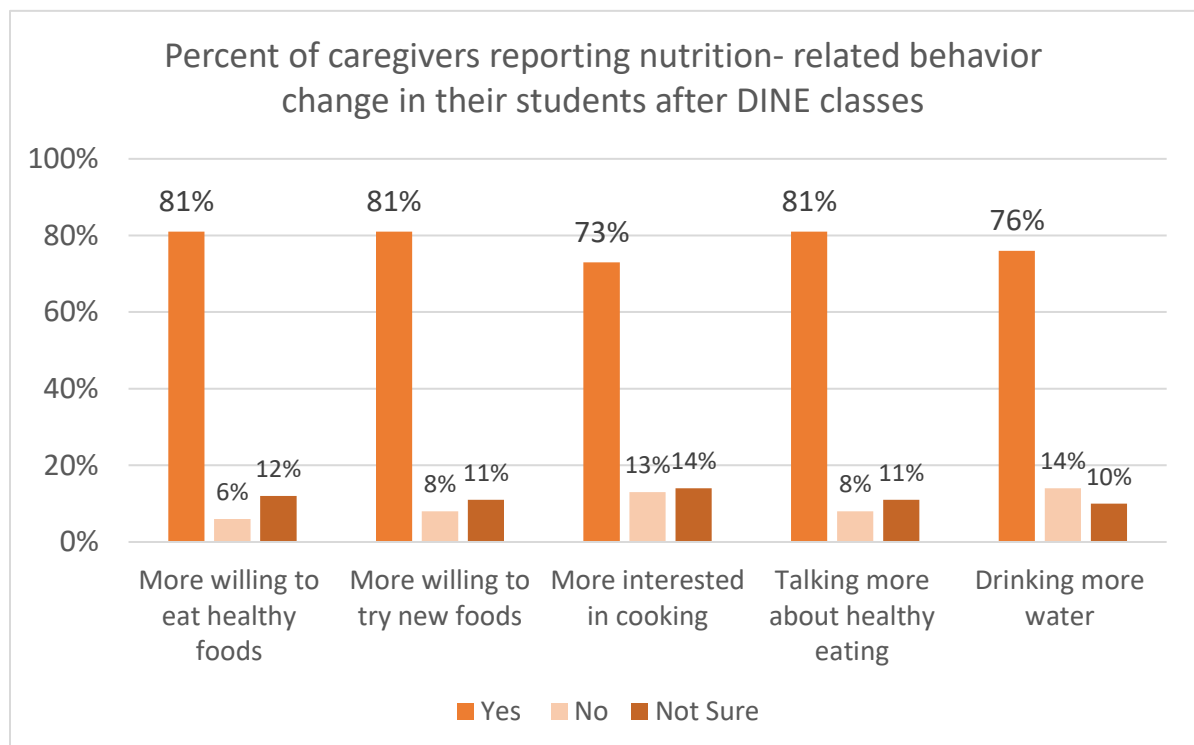
“is open to trying new foods.”

“has been drinking more water.”

Change in Behavior: Caregiver Survey Results

Caregivers of elementary school-aged students (grades K-5th) were asked about behavior changes they noticed because of their child’s participation in DINE.

- **398** caregivers of children at **15** DPS schools completed the survey
- **89%** felt the DINE nutrition classes were a valuable part of their child’s school



Change in Behavior: Teacher Survey Results

Teachers in grades K – 8th were asked about students' nutrition-related behavior changes they noticed after DINE classes.

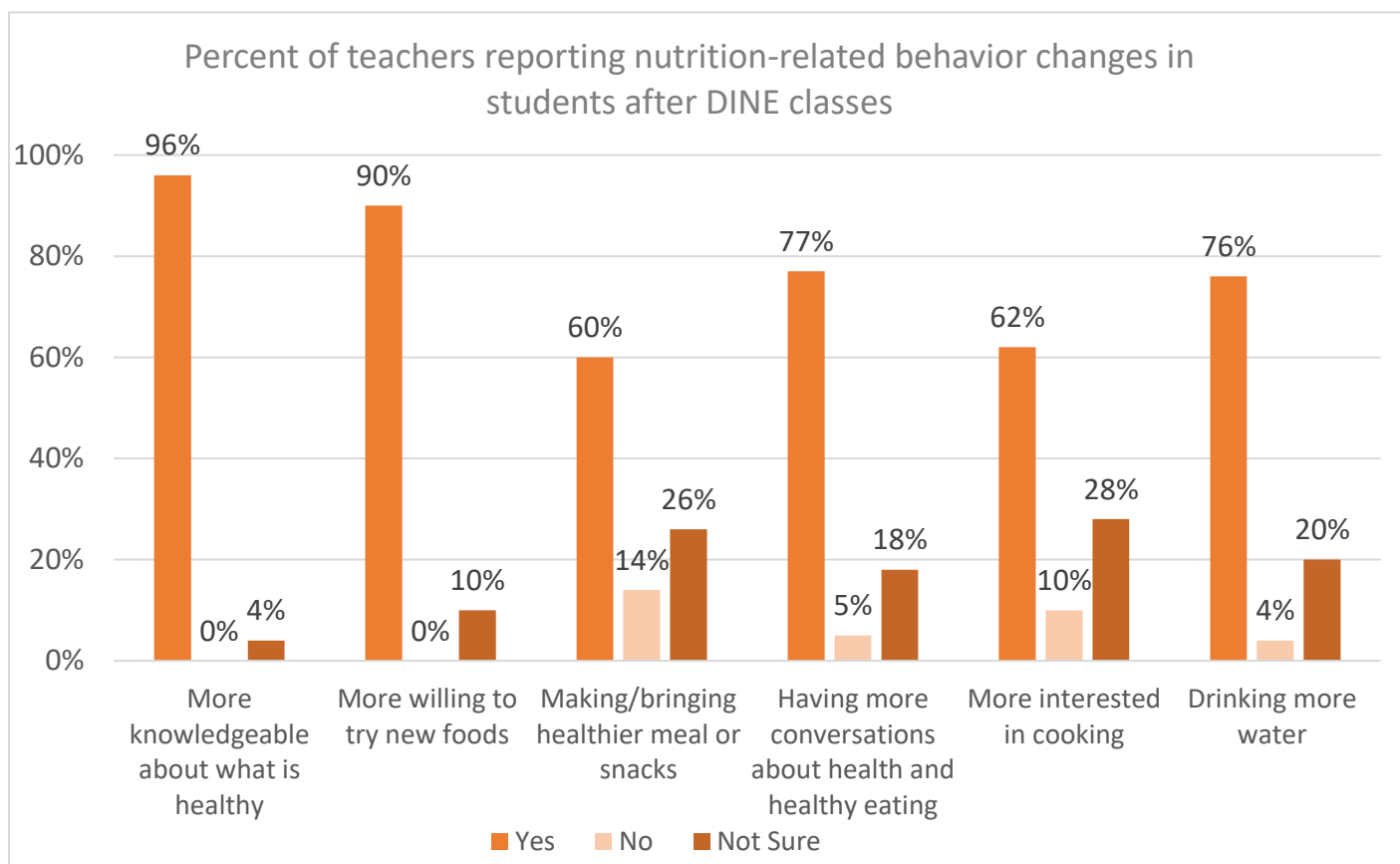
- **58** teachers at 15 DPS schools completed the survey
- **41** (71%) teachers stated DINE reinforced math, science and reading concepts

DINE made a secondary impact on nutrition-related behaviors in teachers. Nineteen teachers indicated their individual behaviors improved because of DINE. **"I try to be more aware of the snacks and lunches I eat in front of the kids. I try to model healthy choices. I also try to use less food-based incentives."**

As a result of DINE, teachers say their students:

"are drinking more water from water bottles."

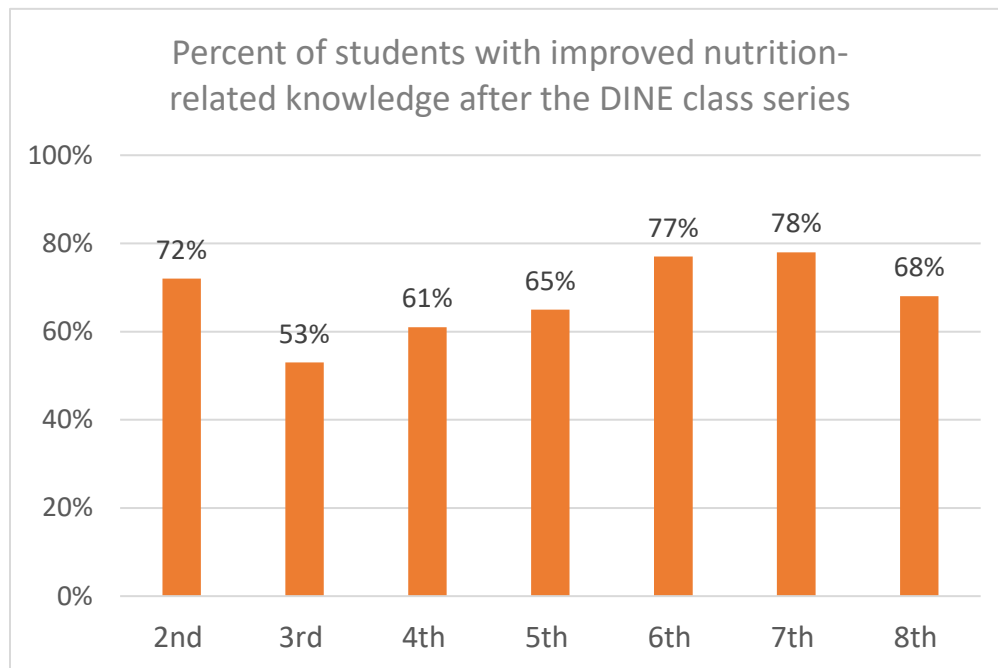
"are willing to try more fruits and vegetables from the cafeteria."



Knowledge Change

Students in 2nd – 8th grade were surveyed to determine nutrition- related knowledge change.

- **837 students (69%) increased** nutrition-related knowledge.
 - **377** elementary school students (64%) improved knowledge.
 - **460** middle school students (74%) improved knowledge

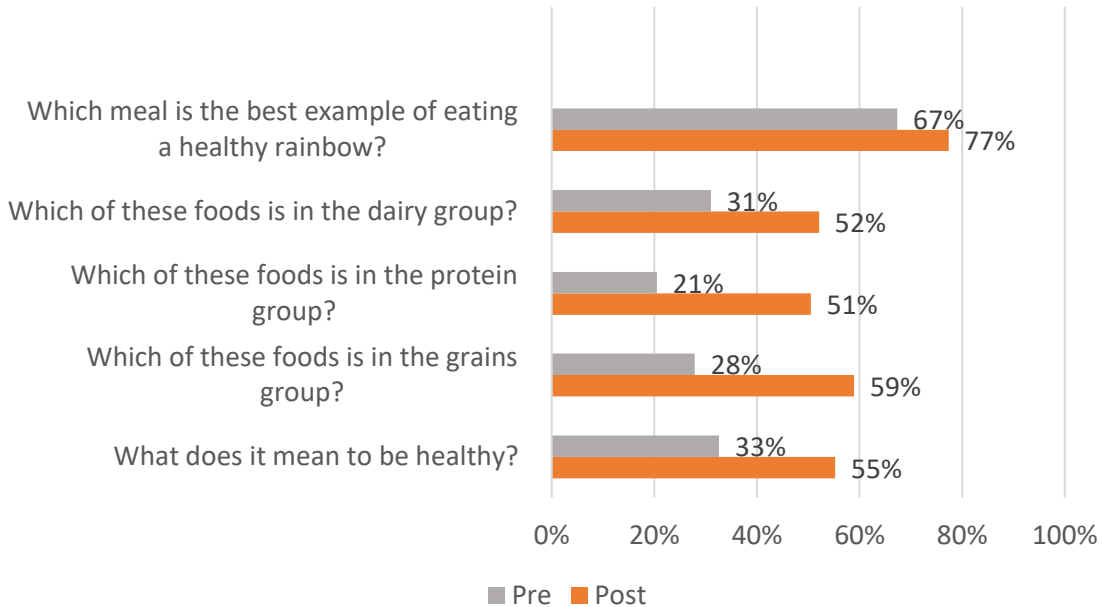


Students performed better on the post-survey than the pre-survey across all questions, except one. The 2nd and 5th grade students showed the largest performance jumps post-survey. In the 2nd grade, the question, “Which of these foods is in the grains group?” had a 31-point performance increase. Similarly, in the 5th grade, the question, “Which of the following is an example of mindful eating?” had a 32-point performance increase.

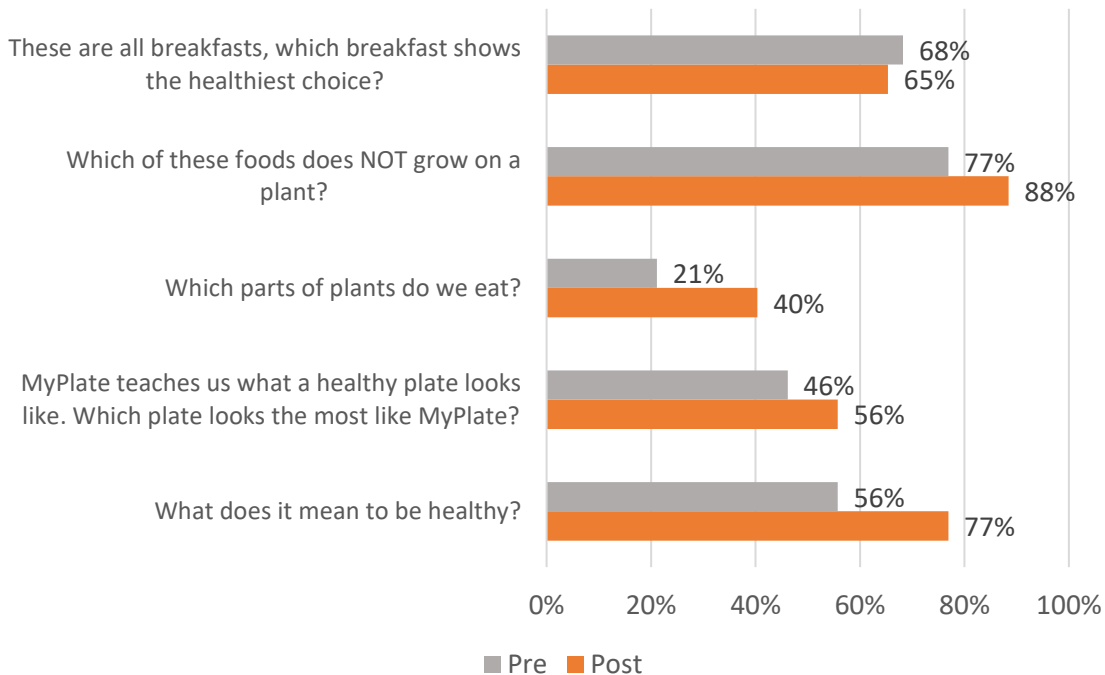
After the DINE class series, elementary school students are more likely to know:

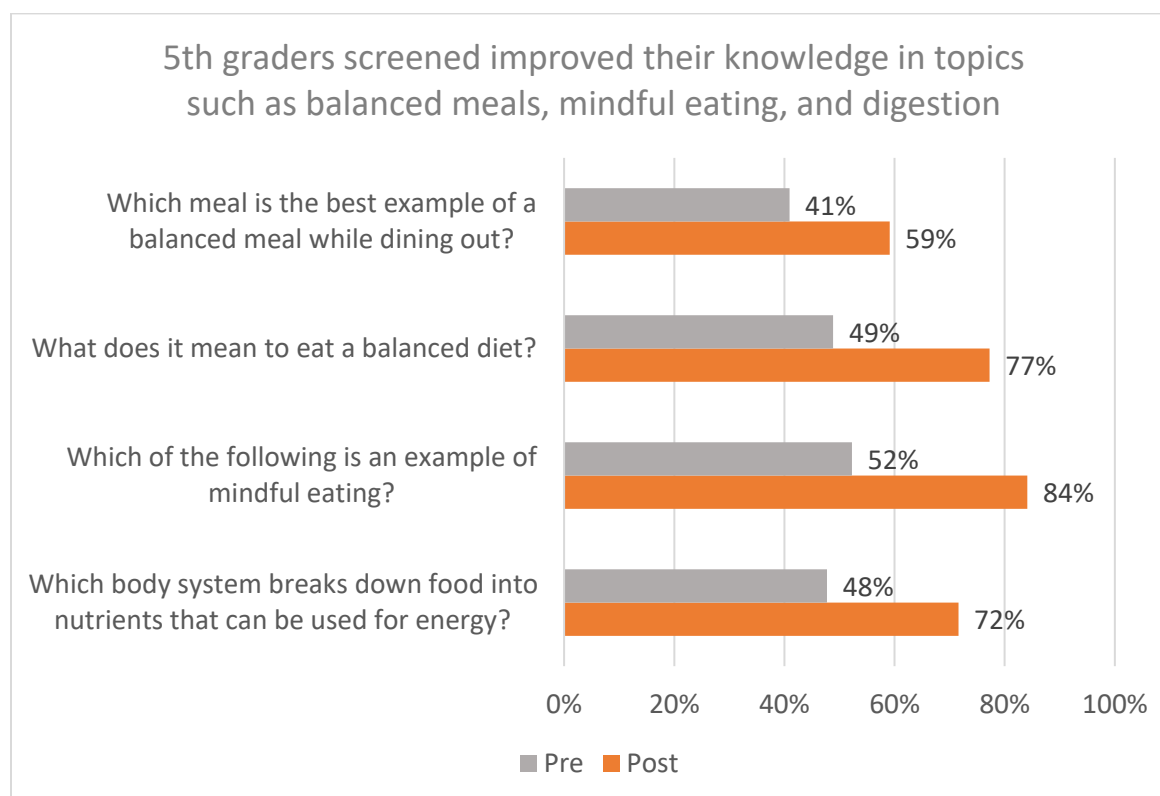
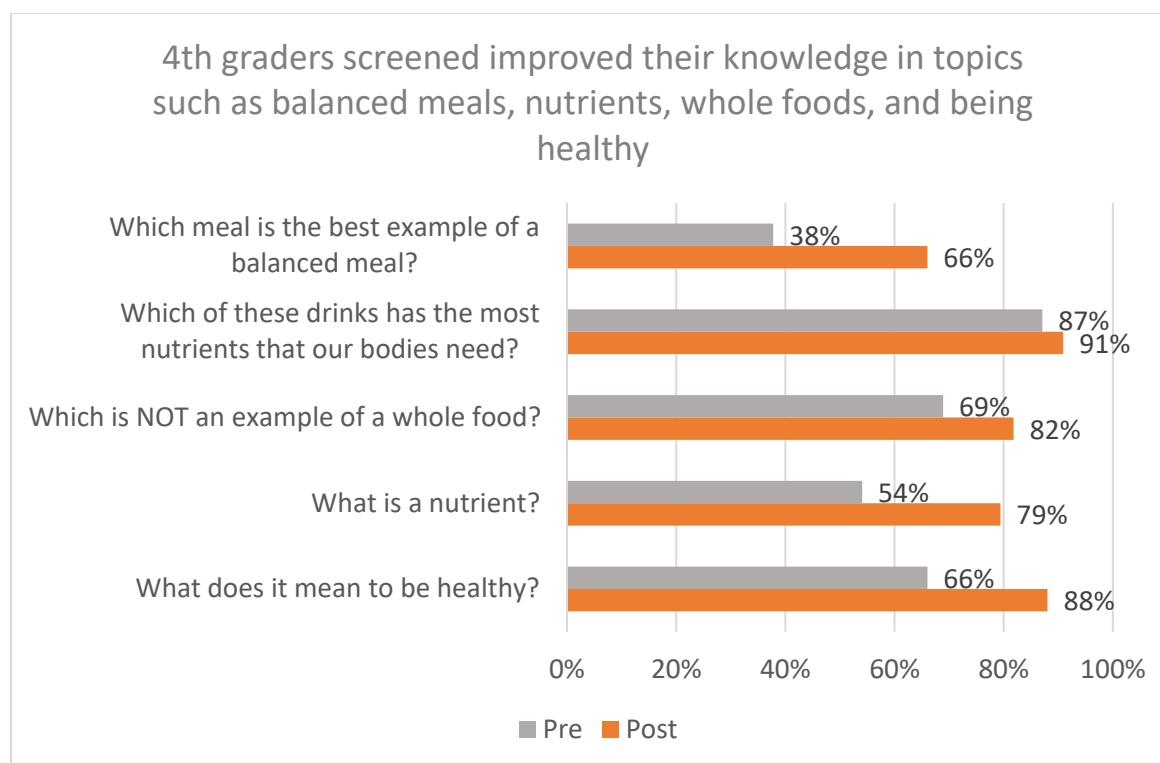
- how to identify a balanced meal and one with a rainbow of colors.
- foods that belong in the dairy, protein, and grains food groups.
- the definitions of healthy, whole foods, and nutrients.
- foods that grow on plants and which parts of the plant we eat.
- MyPlate concepts.
- nutrient-rich drinks.
- principles of mindful eating.

2nd graders screened improved their knowledge in topics such as eating a rainbow of colors, food groups, and being healthy



3rd graders screened improved their knowledge in topics such as plants we eat, MyPlate, and being healthy

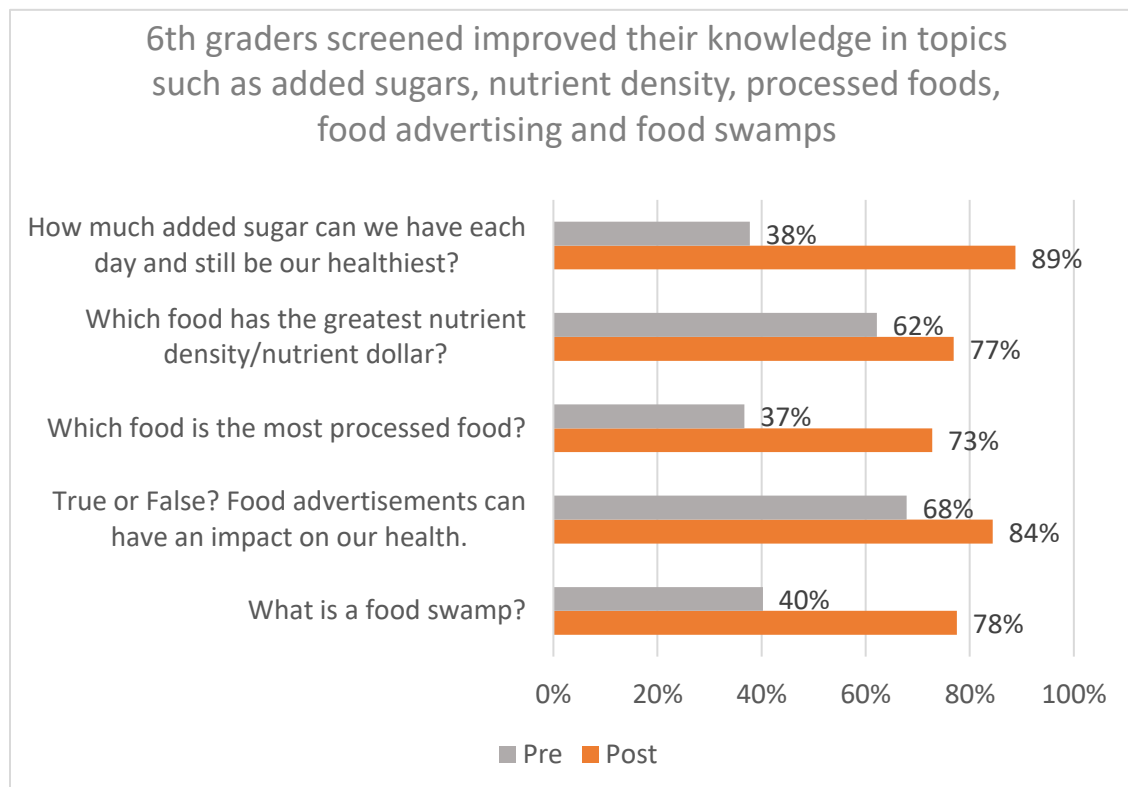




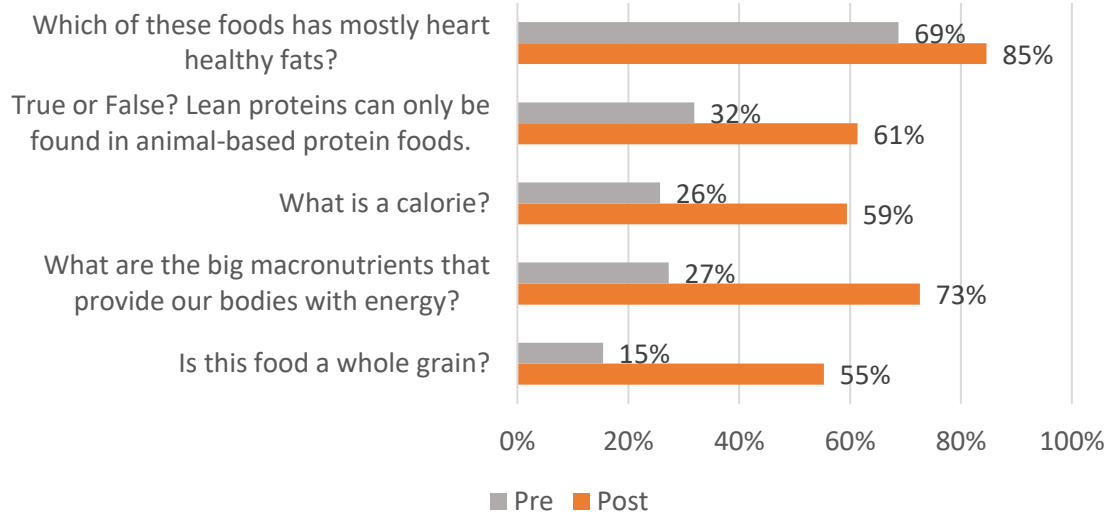
In grades 6th – 8th, students performed better on the post-survey than the pre-survey across all questions, except one. The 6th grade students had the greatest knowledge increase. The percentage of students correctly answering the question, “How much added sugar can we have each day and still be our healthiest?” increased the most from pre-survey to post-survey (51%).

After the DINE class series, middle school students are more likely to know:

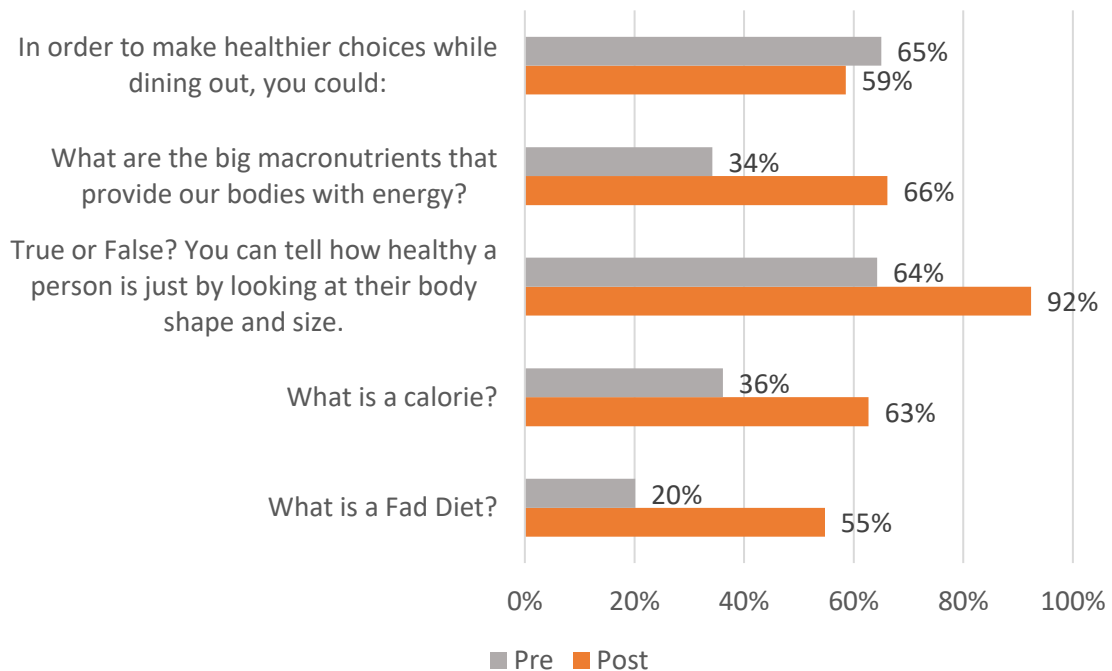
- about added sugars, heart healthy fats, lean proteins, and calories.
- foods with the greatest nutrient density.
- definitions of and details about processed foods, food swamps, and fad diets.
- the impact of food advertisements on our health.
- how our body gets energy from food.



7th graders screened improved their knowledge in topics such as healthy fats, lean proteins, calories, macronutrients, and whole grains



8th graders screened improved their knowledge in topics such as macronutrients, being healthy, calories, and fad diets



DINE in Community

In FFY22, DINE:

- Taught over **50** lessons for adults
- Reached **501** unduplicated adult contacts

Of the **238** participants (57%) that participated in a post-survey:

- **222** (93%) reported they learned something new
- **180** (76%) reported they planned to make a nutrition-related behavior change because of the workshop

After adult DINE classes, individuals are more likely to know:

- Tips for picky eating in children
- How to better understand the Nutrition Facts Label
- How to identify healthier snacks and food with hidden salt

“Will start looking more at sodium on food products.”

“I will add more vegetables to my diet.”

“I will make my own seasoning.”

“Try different greens in my salad.”

-Workshop Participants



DINE Well Durham

DINE Well Durham, a virtual workshop series with 4 lessons, was offered in English and Spanish. Class topics included eating for health, and how to plan, shop and prepare healthy meals and snacks on any budget. DINE made changes to DINE Well Durham in FFY22, including moving the platform to Facebook to be more accessible and making the Spanish workshops more culturally appropriate.



Two series were held in FFY22.

- **20** individuals participated in the series (this number is included in the DINE in Community total above)
- **6** participants took both the pre and post surveys.
 - **67%** improved in nutrition-related knowledge
 - **83%** improved their nutrition-related behaviors
 - **2** of these participants took the 6 month-post survey; **1** participant maintained behavior changes.

DINE in Childcare

Despite the position being vacant for part of the year, the DINE in Childcare nutritionist taught:

- **466** unduplicated preschool aged children
- **41** lessons in 10 preschools

Because of staff turnover and COVID-19 impacts, knowledge and behavior change were not assessed in FFY22.



Policy, Systems and Environmental Changes (PSE)

DINE focuses on ensuring partners have the support they need to make and maintain the changes, fosters community engagement, and provides technical assistance and evaluation support.

DINE in Schools

DINE assisted with the implementation of **17 systems and environmental changes** at 13 DPS elementary and middle schools. One of these changes, a vegetarian lunch entrée added to the school lunch menu, reached all **14,897** SNAP-Ed-eligible DPS elementary and middle school students.

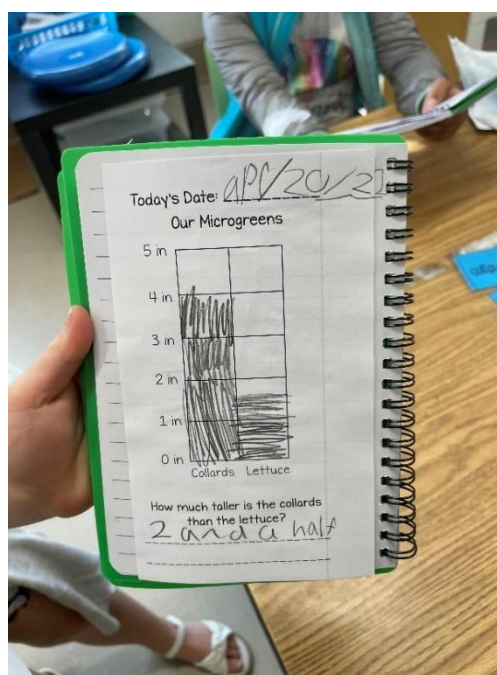
Classroom Garden Kits

One of the environmental changes that reached the most students (**1,385**) were the classroom garden kits. These kits, provided to **51** classrooms in **10** schools, contained seeds, compost, watering cans, containers, instructions, additional teacher resources, and garden journals. A survey was sent to participating classrooms for feedback. Ten teachers responded.

- **70%** said students were more confident growing food
- **90%** felt better equipped to lead garden education
- **70%** were encouraged to teach nutrition education

“One of my students was very eager to eat her broccoli because she knew where it came from and what it looked like as it was growing.”

- **Teacher comment**



Healthy Changes in DPS schools facilitated by DINE
<p>Systems Changes:</p> <ul style="list-style-type: none"> • Extra produce grown in garden given to families at one school • Annual MyPlate Fun Run implemented at one school • Class participation in a yearlong food and nutrition security project, developing food security plans for the community • A vegetarian lunch entrée, recommended by DINE, was added to the lunch menu
<p>Environmental Changes:</p> <ul style="list-style-type: none"> • Classroom garden kits • A new school Garden Committee reinvigorated a two-decades old garden • A school library revamped their nutrition book collection and committed to annually highlighting nutrition literature during National Nutrition Month

DINE in Community

DINE facilitated **18 policy, systems, and environmental changes** at:

- The Black Farmers' Market
- Five food pantries
- Vending machines in the Durham County Health and Human Services building
- An online food resources map

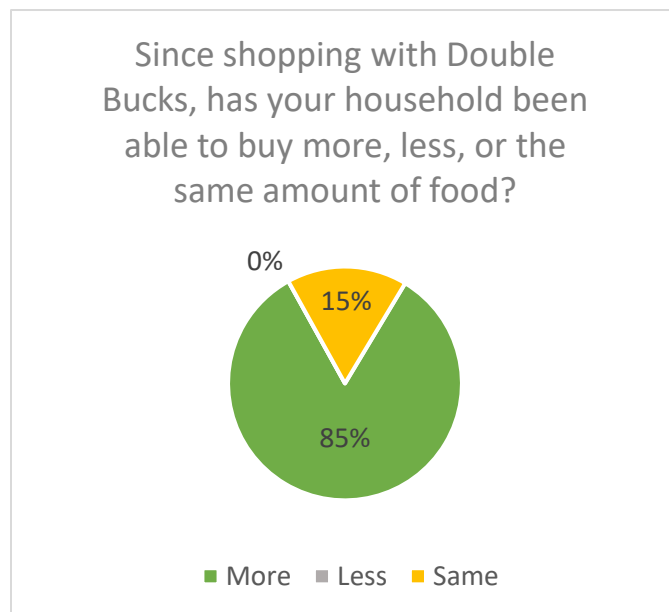
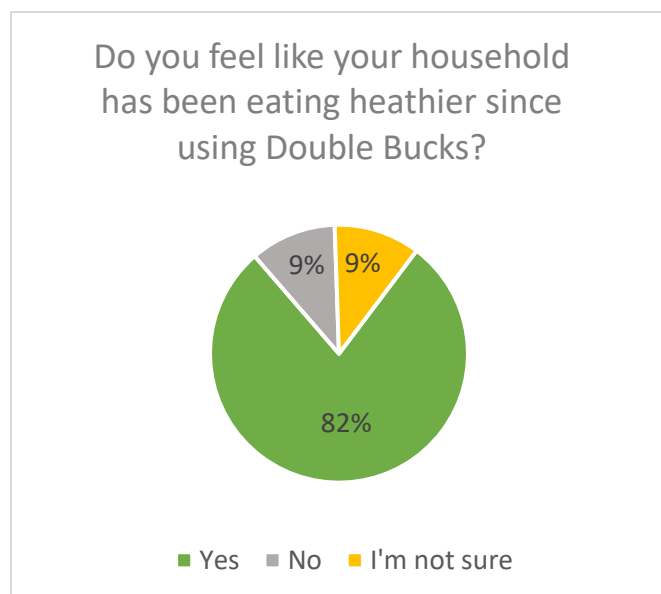
Healthy Changes in Durham that DINE in Community Assisted
<p>Policy Changes:</p> <ul style="list-style-type: none"> • Local food pantry implemented a nutrition policy for donated foods
<p>System Changes:</p> <ul style="list-style-type: none"> • All vending machine snacks within government buildings align with the American Heart Association's nutrition standards • A new Food Policy Council was formed with assistance of DINE staff
<p>Environmental Changes:</p> <ul style="list-style-type: none"> • The Black Farmers' Market secured funding to offer the Double Bucks program • Improvements and updates to the Durham Food Resources Map • Refrigerators and shelving added to some school food pantries • A new food pantry established at a local high school • More fresh foods and fewer processed, high-sugar foods at a preschool pantry

Double Bucks

Durham Double Bucks is now offered at four local farmers' markets and doubles SNAP benefits, Farmers' Market Nutrition Program (FMNP) vouchers, and cash for people receiving SNAP, WIC and Section 8 housing vouchers. Double Bucks has been offered at the Durham, South Durham and East Durham farmers' markets for a number of years, funded by a grant from Blue Cross Blue Shield of North Carolina. In FFY22, DINE facilitated expansion of the program to the Black Farmers' Market. The market began accepting FMNP (it already accepted SNAP) and secured funds from the American Heart Association and United Way of the Greater Triangle to double SNAP and FMNP benefits. In FFY22, this market reached **70 unique Double Bucks customers**.

The three other markets reached **452 unique customers**. Customers shopping with Double Bucks spent **\$71,385 on local foods in 1,595 transactions**.

Of Double Bucks customers surveyed:



Food Pantries

Six food pantries that served 4,930 individuals partnered with DINE in Community. **Five** implemented either a policy or an environmental change, reaching **1,880 unique individuals**. The pantry with the largest reach, 1,100 unique individuals, created a policy that outlines nutrition guidelines for donated food.

Healthy Vending Machine Initiative

DINE facilitated a healthy vending policy that was signed in October 2021. This policy states that all food and beverages sold in vending machines located in Durham County-owned buildings will align 100% with the American Heart Association's nutrition standards.

DINE worked with Durham County General Services to identify a vendor and maintain vendor compliance. By the end of FFY22, the vendor was in compliance with the snack products sold in the machines but remained out of compliance with beverages.

- 0% of individuals using the vending machines at the Durham County Human Services building only have access to *drinks* that meet the American Heart Association nutrition guidelines.
- **100%** of individuals using the vending machines at the Durham County Human Services building only have access to *snacks* that meet the American Heart Association nutrition guidelines. **1,897 unique individuals** were reached by this change.

Note: Reach of this project was determined by the number of unique individuals visiting the COVID-19 vaccine clinic when the vendor was in compliance with the healthy snack policy. Reach was determined this way to ensure no duplication. Many more people visited the Health and Human Services building, which houses Social Services, Veteran Services, the health department and a satellite WIC clinic, during this time.

Food Resources Map

The [Food Resources Map](#) is a virtual interactive map. Individuals can search for food resources, such as pantries and school meal sites, within a certain radius of an address.

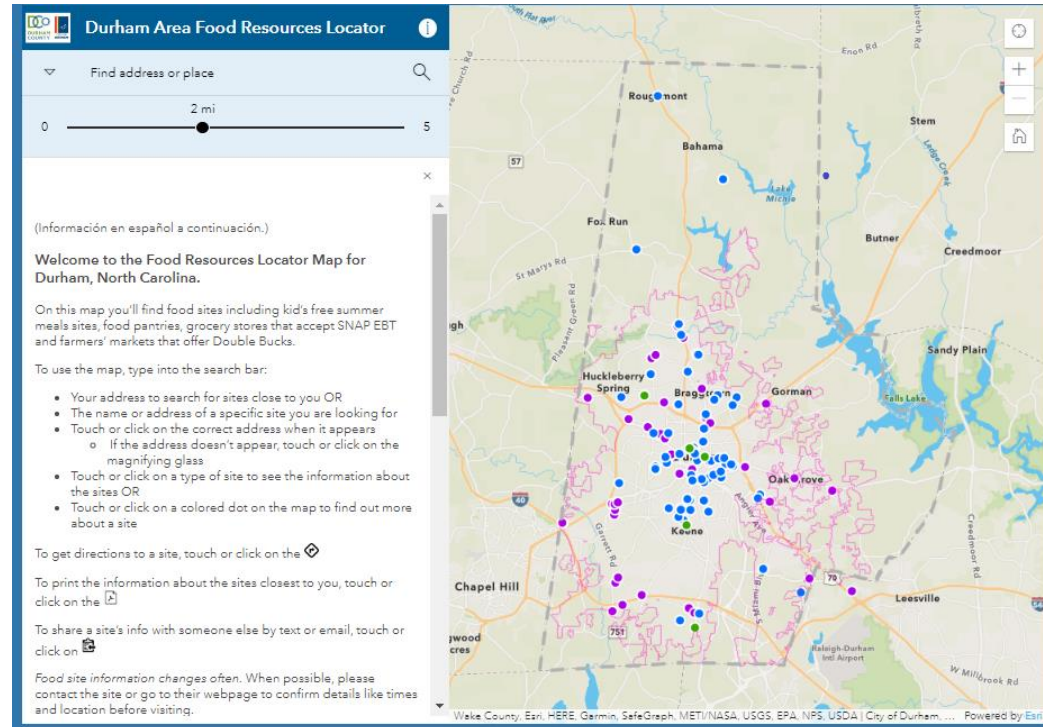
The following changes were made to the map in FFY22:

- DINE started using Google Analytics and Survey Monkey to evaluate the map.
- The map was translated into Spanish.
- A landing page was created that includes information on WIC and SNAP enrollment.
- A link to the map was added to Durham County Department of Public Health and DINE websites. Promotion also occurred through several community partners.

The map reached **1,268 unduplicated users** in 6 months.

The number of people completing the embedded survey was very low and about half of those who completed it were community partners providing feedback on the map itself.

- **7** individuals completed the survey
- **4** individuals (57%) reported the map helped them find food
- **2** (29%) reported it increased their access to healthy foods.



DINE in Childcare

The DINE in Childcare position was vacant for the first three months of FFY22 and the nutritionist was in training for the following three months. Even with this gap in services, DINE:

- Facilitated **14 PSE changes** in 9 early childhood education programs
- Reached **148 pre-school-aged students with PSE changes**.

“Words cannot express our gratitude extended to you!!! This is major”.

- **Childcare provider comment where raised garden beds were installed**

Nutrition Changes in Childcare	
System Changes:	<ul style="list-style-type: none">• Improved ability and desire to provide programming in school gardens
Environmental Changes:	<ul style="list-style-type: none">• Classroom garden kits• Educational displays• Created a Farm to Childcare virtual toolkit including videos and supplies

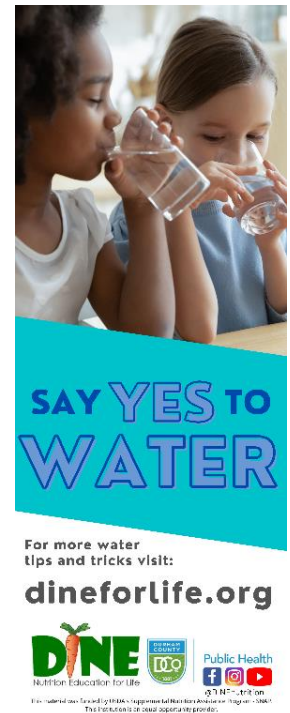


Social Marketing

Say Yes to Water Campaign

A county-wide campaign encouraging residents to drink more water reached **20,293 unique individuals**. Say Yes to Water messaging was incorporated into most of DINE's programming during FFY22 including:

- Workshops and health fairs where DINE provided Say Yes to Water magnets, water bottles, infused water samples, and recipes.
- An e-newsletter was sent monthly to **911** email addresses. Each issue contained water tips and recipes. The newsletter has a monthly open rate of about **20%**.
- Social media posts about beverage choice were posted regularly. The reach from one post was counted to ensure no duplication.
- Banners were displayed in the health department's COVID-19 vaccine clinic. People receiving vaccines must wait for 15 minutes following the vaccine, so they had ample time to view the banner. Bottled water was provided in the waiting area to reinforce the message (bottled water was not funded by SNAP-Ed). DINE was able to determine unduplicated reach because of the vaccine clinics detailed records.

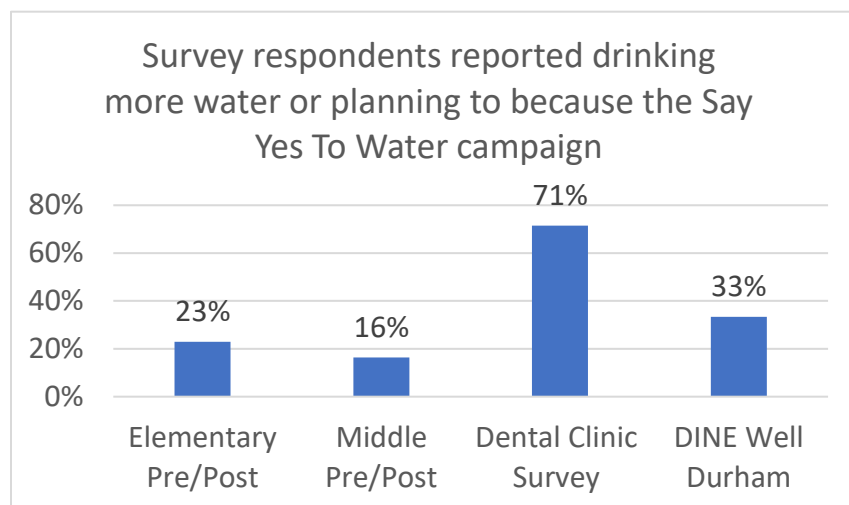


FFY22 Reach included:

E-Newsletter	911 subscribers
Facebook Post	3,966 viewers
Instagram Post	3,732 viewers
Classes & Events	3,261 individuals
Banners in vaccine clinic	8,423 individuals

Evaluation data showed **19%** of individuals **reporting that they drank more water** or **they plan to change their behavior because of the campaign**. Elementary school, middle school and DINE Well Durham data comes from pre/post survey results.

- **23%** of 297 elementary school students surveyed
- **16%** of 625 middle school students surveyed
- **33%** of the 6 DINE Well Durham participants surveyed
- **71%** of 14 Dental Clinic* clients surveyed



*Note: Due to changes in COVID-19 vaccinations, DINE was not able to survey clients in the vaccine clinic. DINE moved the banners to the dental clinic for evaluation purposes.



Social Media

DINE uses social media to share recipes, healthy eating tips, the Say Yes to Water campaign messaging, and to encourage physical activity. DINE posts in both English and Spanish. In FFY22, more staff time was dedicated to reaching individuals online.



Facebook

In FFY22, the DINE Facebook page (@DINE.nutrition):

- Had **754** followers
 - **97%** woman
 - **41%** between 35-44 years old
 - **24%** between 45-54 years old
 - Most followers are from Durham, NC
- Reached **9,623 individuals** (a **239%** increase from FFY21).
- Boosted a post about water (pictured below) that had **3,966 unique views** and received **150 reactions (likes)**.

Instagram

The DINE Instagram account started in FFY21. In FFY22, the account:

- Grew to **200** followers.
 - **84%** women
 - **30%** of followers are women between 35-44 years old
 - **28%** of followers are women between 25-34 years old
- Reached **5,942** individuals (a **1,000%** increase from FFY21).
- Boosted a post about water (pictured) that had a reach of **3,732 unique individuals** and received **312 reactions (likes)**.



Summary

FFY22 was a successful year for DINE. Participation in direct education increased greatly as staff returned to in-person teaching and community events. Hybrid and online programming



continued and further increased DINE's reach. DINE facilitated many new PSE changes throughout Durham County that are positively impacting the health of thousands of Durham residents, both young and old. The social marketing campaign got over 20,000 individuals excited about drinking water. **DINE was awarded by the GlaxoSmithKline Foundation for their contributions to child health.** DINE is celebrating all the success and the team is looking forward to another great year in FFY23.

Acknowledgements

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