

Metro Nashville
Public Schools:
A Training Guide
for Healthier Cafés

Improving Children's Health
Through School Nutrition:
More Fresh; Less Processed



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About the Alignment Nashville School Nutrition Committee

We've all seen the headlines:

Overweight and obesity in children is increasing, and the status of our children's health is declining. Now, together, we must focus more on helping our students prevent overweight and obesity and to improve their health.

The Alignment Nashville School Nutrition Committee was started in February 2011. The purpose of forming this committee was to provide the space and forum necessary for MNPS leadership, community partners, parents and students to come together, develop and execute a vision of what a healthier nutrition culture inside of Metro Nashville Public Schools should look like in 3-5 years.

During the initial meeting of these vital decision-makers consensus was built in developing a vision and then prioritizing how the vision should be implemented, beginning with:

- **Highly Trained and Supported Cafeteria Workers**
- **Quality Food Preparation and Presentation**
- **Comprehensive Nutrition Education for the MNPS Community**

Next, the committee developed a comprehensive plan to reach these outcomes, which then lead to a grant from Healthways Foundation and was the catalyst in beginning the professional development and trainings identified as being the start of the work. Through the Healthways Foundation grant, the committee was able to send twenty-six MNPS Cafeteria Managers and six Culinary Arts Students from Hunters Lane High School to the National School Nutrition Conference which was held in Nashville in July 2011.

Prior to the conference, a list of conference workshops were identified as being best matches that would help in supporting the outcomes of the committee:

- (1) **More Fruits and Vegetables,**
- (2) **More Scratch and Less Processed, and**
- (3) **Re-invent A-La-Carte**



The purpose of this pilot was to design and implement a Healthier School Café program that could be documented and then implemented across the district within 3–5 years.

Ten schools were asked and selected to be the pilot schools for the Healthier Cafés Pilot Program. Glengarry Elementary, Glenview Elementary, Fall-Hamilton Elementary, Park Avenue Elementary, Shayne Elementary, Rose Park Middle School, Wright Middle School, McGavock High School, Overton High School and Stratford High School. The purpose of this pilot was to design and implement a Healthier School Café program that

could be documented and then implemented across the district within 3-5 years.

From the very beginning, the School Nutrition Committee recognized the need to “educate, train, and inspire” cafeteria managers in order to achieve their desired outcomes of (1) **decreasing the consumption of processed foods by 25%** and (2) **increasing the consumption of fresh fruits and vegetables by 25%** by the end of the 2012-13 school year. The committee was awarded a \$50,000 grant from the Baptist Healing Trust to assist in reaching these new goals.

In 2012, The School Nutrition Committee was recognized by the Center for Non-profit’s annual Salute to Excellence committee as a finalist for the Frist Foundation’s Team Building Award. This was a great acknowledgement that the work happening in this committee is making a difference for school nutrition.

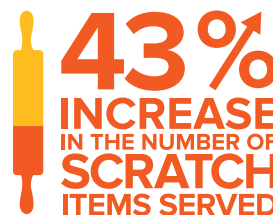
Highlights of the School Nutrition Pilot, to date:

- 86% increase in the number of fresh produce items served
- 43% increase in the number of “scratch” items served
- In celebration of National Food Week, the American Culinary Foundation sponsored 100 Chefs in 100 Schools. During this week chefs worked with over 4,300 students, parents and siblings who received healthy recipes, demonstrations, tastings, and community resources during October’s Food Week.
- Created the Food Insecurity Sub-Committee charged with taking a closer look at hunger within our MNPS communities and create tactics that could support these families. 8 pilot schools have been identified for this project, including food pantry programs.
- In the past fiscal year, the Healthier Cafes pilot served approximately 8,000 students at 10 pilot schools.

HIGHLIGHTS OF THE SCHOOL NUTRITION PROGRAM:



86%
INCREASE
IN THE NUMBER OF
FRESH
PRODUCE ITEMS



43%
INCREASE
IN THE NUMBER OF
SCRATCH
ITEMS SERVED



DECREASES
IN AMOUNT OF
“PROCESSED”
ITEMS SERVED

HEALTHIER CAFES TRAINING GUIDE: Thanks to all of the great work accomplished by everyone involved in this pilot program, including: MNPS cafeteria managers and staff, all involved staff of the ten pilot schools, community organizations, parents and also MNPS administration. This new Healthier Cafés training guide has been built and written using information and lessons learned while working hand in hand with the ten pilot schools.

Alignment Nashville School Nutrition Committee

Jill Baker	<i>MNPS</i>
Jeremy Barlow	<i>Community Member/Parent</i>
Jen Boulton	<i>Healthways</i>
Fred Carr	<i>MNPS</i>
Linda Catlett	<i>Healthways</i>
Sheila Clark	<i>MNPS</i>
Sue Clark	<i>MNPS</i>
Braina Corke	<i>MNPS</i>
Tanya Debro	<i>Healthways</i>
Kevin Dorr	<i>American Culinary Foundation</i>
Julie Fitzgerald	<i>Metro Public Health Dept.</i>
Linda Herrell	<i>MNPS Parent</i>
Pam Hull	<i>Vanderbilt University</i>
Lisa Jameson	<i>Healthways</i>
Anthony Johnson	<i>Alignment Nashville</i>
Melinda Judd	<i>Second Harvest Food Bank of Middle Tennessee</i>
Rachel Knight	<i>Healthways</i>
Jeff Krebs	<i>Healthways</i>
Holly May	<i>LEAD Academy Teacher</i>
Selena McCoy Carpenter	<i>Glendale Elementary/Parent</i>
Kimberly Molnar	<i>Second Harvest Food Bank of Middle Tennessee</i>
Megan Morton - Vice Chair	<i>Community Food Advocates</i>
Rhonda Newborn	<i>Healthways</i>
Nicole Proffitt	<i>MNPS - Coordinated School Health</i>
Spencer Taylor - Chair	<i>MNPS</i>
Jessica Trumble	<i>Healthways</i>
Deborah Walker	<i>MNPS</i>
Kathy Wantland	<i>MNPS</i>
Teresa West	<i>MNPS</i>
Emiliano Zuniga	<i>Maplewood HS Student</i>

How Do We Get There?

The 5 Year Vision

A VISION FOR NUTRITION

Highly trained and supported cafeteria workers.

MNPS community models healthy choices.

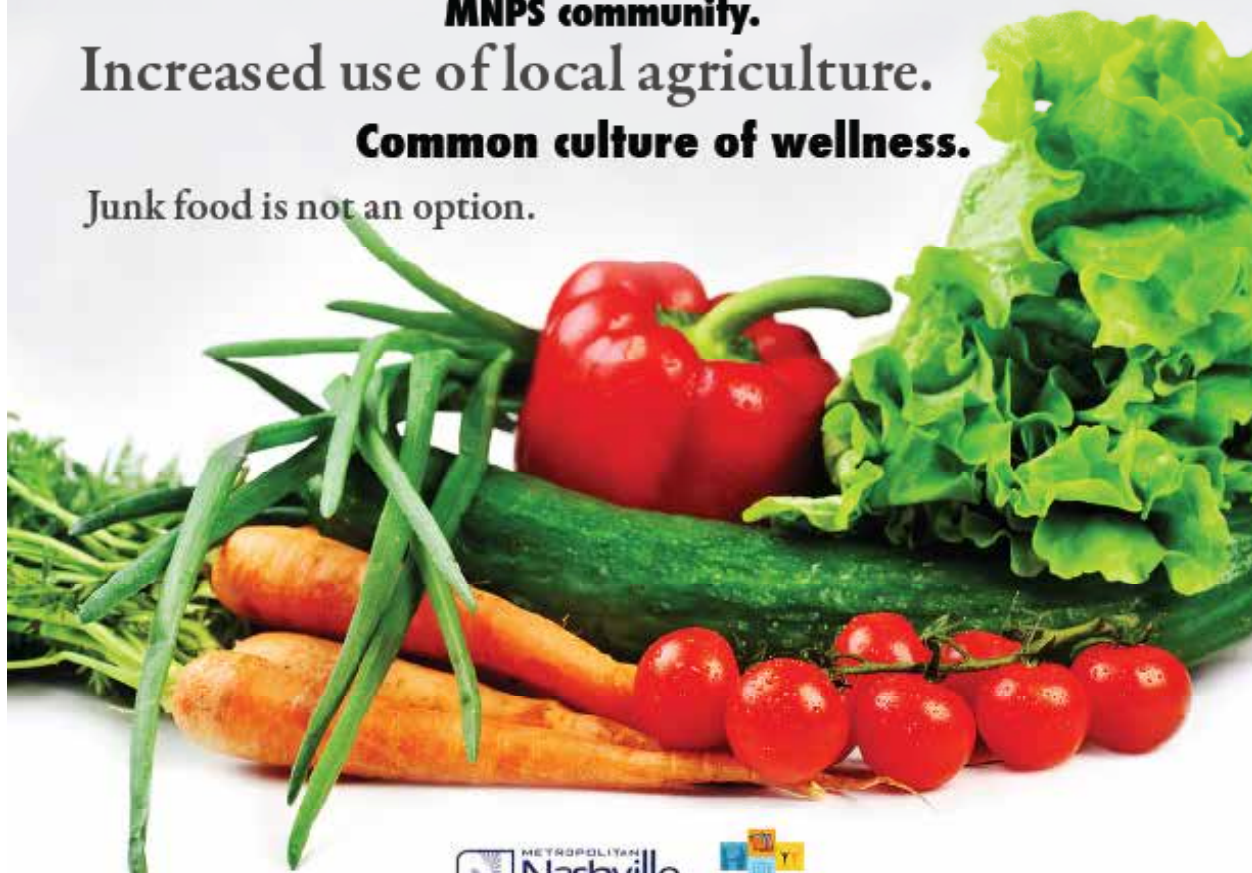
Quality food preparation and presentation. Policy that enables, supports and sustains the vision.

Comprehensive nutrition education for the MNPS community.

Increased use of local agriculture.

Common culture of wellness.

Junk food is not an option.



Alignment Nashville School Nutrition Committee 3-5 year Strategic Plan www.alignmentnashville.org 615-258-3166 Drafted January 2011

A Letter from Committee Chair, Spencer Taylor, MNPS Director of Nutrition Services

As we raise the bar in school nutrition on a national level, myself and other school nutrition professionals have been tasked to effectively implement healthier standards in our school meals per the United States Department of Agriculture (USDA). The healthier standards encourage more fruits and vegetables, reductions in fat, sugar and sodium, healthier cooking methods, and participation in health initiatives such as the Fresh Fruits and Vegetable program. School nutrition professionals have been challenged to meet the new standards with innovativeness, creativity, research and collaborations, community input and commitment.

The School Nutrition Services Department at Metropolitan Nashville Public Schools (MNPS) has accepted the challenge and is committed to improving our services by providing a variety of healthier meal options that are visually appealing, tasty, and encourage health promotion. Currently, the School Nutrition Services Department participates in various health promotions, such as Breakfast in the classroom, Farm-to-School and the Healthier US Challenge for schools. We will continue to foster the expansion of health promoting programs because we understand the importance of good nutrition and the role it plays in supporting the academic success of our students.

This guide will provide you with important information that will demonstrate the collaborative vision of the Alignment Nashville School Nutrition Committee and MNPS that focused specifically on the first ten pilot school cafés, expanding to fifteen in 2013-14 and with the ultimate goal of duplicating our efforts district wide.

Thank you for time and attention to this important matter.

Sincerely,

Spencer E. Taylor
Director, School Nutrition Services
Metro Nashville Public Schools

A Letter from Committee Vice-Chair, Megan Morton, Community Food Advocates

It is an exciting time to be a part of School Nutrition!

All across the country people are coming together to work to make school food the healthiest choice for all children. The work we do through the Alignment Nashville School Nutrition Committee is to promote and support healthy, fresh and local food in Metro Nashville Public Schools through deeper community engagement. Our vision is one that imagines a system where our School Nutrition Professionals have the resources they need to prepare the most nutritious foods available.

In the past two years we have been inspired by witnessing the dedication you have to the children you serve. On the front line of the battle for our childrens' health, you have the power to help make a difference. Your creativity, energy and passion are essential ingredients in this recipe for success.

Best,

Megan Morton
Vice-Chair of the Alignment Nashville School Nutrition Committee, and
Executive Director, Community Food Advocates

Coordinated School Health

Nutrition Services is one of the eight (8) Components of Health and Education supported through Coordinated School Health

Coordinated School Health is an effective system designed to connect health and education. This coordinated approach to school health improves the health of students and their capacity to learn through the support of families, communities, and schools.

Schools, by themselves, cannot combat the nation's most serious health and social problems. It takes a coordinated effort of many individuals, groups, organizations, and families to improve health and education. Schools, however, can provide a critical facility through which these groups can work together to improve the well-being of young people.

A Coordinated School Health approach **increases** the potential impact of individual components. (Allensworth, 1994). There is evidence that shows the positive impact of one or more components on student health and learning outcomes. School administrators (McKenzie and Richmond, 1998) also report that coordinating health initiatives results in:

- Reduced absenteeism
- Fewer classroom behavior problems
- Improved academic performance
- Greater interest in healthy diets
- Increased participation in fitness activities
- Delayed onset of certain health risk behaviors
- Less smoking among students and staff
- Lower rates of teen pregnancy

It is anticipated that these positive effects on student and staff health will in turn help to achieve the HealthyPeople 2020 overall goals. To learn more about HealthyPeople 2020, please visit www.healthypeople.gov/.



Changes to the Nutrition Standards

Changes to the Nutrition Standards in the National School Lunch and School Breakfast Programs

On December 13, 2010, President Obama signed into law Public Law 111-296, the Healthy, Hunger-Free Kids Act of 2010. This historic legislation marked the most comprehensive changes to the school nutrition environment in more than a generation. The last update to school meals standards was over 15 years ago. Since that time, tremendous advancements in our understanding of human nutrition have occurred. In response to that reality, the Healthy, Hunger-Free Kids Act required USDA to update school meal nutrition standards to reflect the most current dietary science.

The timing of this legislation and USDA's standards are critically needed to help combat the epidemic of childhood obesity as well as the urgent problem of childhood hunger. Nearly 1 in 3 children are at risk for preventable diseases like diabetes and heart disease due to overweight and obesity. If left unaddressed, health experts tell us that our current generation of children may well have a shorter lifespan than their parents. Additionally, during 2010 over 17 million households in the United States, representing over 32 million adults and over 16 million children, struggled to put enough food on the table. For many of these children, a school meal is the only nutritious source of food they can count on.

Food Group Changes

- **Fruit:** A daily 1/2 cup serving of fruit is now required. The fruit needs to be fresh, frozen without sugar, canned in light syrup, water or fruit juice, or dried. 100% fruit juice may be offered in a 1/2 cup serving only once per day.
- **Vegetables:** A daily 3/4-1 cup serving of vegetables is now required. Daily servings of vegetables within a week, including dark green, red/orange, beans/peas, and starchy vegetable varieties are required to appear on the menu each week. The goal of this is to ensure students receives an increased combined quantity of fruits and vegetables.
- **Meat & Meat Alternate:** 1 ounce meat minimum daily. Ounce requirement will vary based on grade
- **Grains:** At least 1/2 of the grains served must be whole grain.
- **Milk:** 8 ounces of 1%/skim and non-fat unflavored and flavored milk is allowed.



Offer versus Serve

Offer Versus Serve is a system designed to reduce plate waste by allowing students to decline certain meal components.

In the National School Lunch Program, schools must offer 5 food components: milk, fruits, vegetables, grains, and meat/meat alternates. Students are allowed to decline 2 of the 5 required food components, but they must select $\frac{1}{2}$ cup of either a fruit or vegetable. They must select the other food components in the quantities planned.

In the National School Breakfast Program, schools must offer 4 food components, consisting of milk, fruits, meat/meat alternate and grains. Students are allowed to decline 1 food item, but they must select at least $\frac{1}{2}$ cup of fruit.. They must select the other food components in the quantities planned.

The new breakfast and lunch meal patterns will go into effect school year 2012-2013 however gradual changes will be made over an implementation timeline period through 2023 school year.

USDA Meal Pattern

Final Rule Nutrition Standards in the National School Lunch and School Breakfast Programs – Jan. 2012

Meal Pattern	Breakfast Meal Pattern			Lunch Meal Pattern		
	Grades K-5 ^a	Grades 6-8 ^b	Grades 9-12 ^c	Grades K-5	Grades 6-8	Grades 9-12
	Amount of Food ^d Per Week (Minimum Per Day)					
Fruits (cups) ^{d,e}	5 (1) ^g	5 (1) ^g	5 (1) ^g	2½ (¾)	2½ (¾)	5 (1)
Vegetables (cups) ^{d,h}	0	0	0	3¾ (¾)	3¾ (¾)	5 (1)
Dark green ⁱ	0	0	0	½	½	½
Red/Orange ^j	0	0	0	¾	¾	1¾
Beans/Peas (Legumes) ^k	0	0	0	½	½	½
Starchy ^l	0	0	0	½	½	½
Other ^m	0	0	0	½	½	¾
Additional Veg to Reach Total ⁿ	0	0	0	1	1	1¾
Grains (oz eq) ^o	7-10 (1) ^p	8-10 (1) ^p	9-10 (1) ^p	8-9 (1)	8-10 (1)	10-12 (2)
Meats/Meat Alternates (oz eq)	0 ^q	0 ^q	0 ^q	8-10 (1)	9-10 (1)	10-12 (2)
Fluid milk (cups) ^r	5 (1)	5 (1)	5 (1)	5 (1)	5 (1)	5 (1)
Other Specifications: Daily Amount Based on the Average for a 5-Day Week						
Min-max calories (kcal) ^{s,u,v}	350-500	400-550	450-600	550-650	600-700	750-850
Saturated fat (% of total calories) ^{s,u}	< 10	< 10	< 10	< 10	< 10	< 10
Sodium (mg) ^{s,u}	≤ 430	≤ 470	≤ 500	≤ 640	≤ 710	≤ 740
Trans fat ^w	Nutrition label or manufacturer specifications must indicate zero grams of trans fat per serving.					

^aIn the SBP, the above age-grade groups are required beginning July 1, 2013 (SY 2013-14). In SY 2012-2013 only, schools may continue to use the meal pattern for grades K-13 (see § 202.23).

^bFood items included in each food group and subgroup and amount equivalents. Minimum creditable serving is ¼ cup.

^cOne quarter-cup of dried fruit counts as ½ cup of fruit. 1 cup of leafy greens counts as ½ cup of vegetables. No more than half of the fruit or vegetable offerings may be in the form of juice. All juice must be 100% full-strength.

^dFor breakfast, vegetables may be substituted for fruits, but the first two cups per week of any such substitution must be from the dark green, red/orange, beans and peas (legumes) or "Other vegetables" subgroups as defined in §210.10(c)(2)(iii).

^eThe fruit quantity requirement for the SBP (5 cups/week and a minimum of 1 cup/day) is effective July 1, 2014 (SY 2014-2015).

^fLarger amounts of these vegetables may be served.

^gThis category consists of "Other vegetables" as defined in §210.10(c)(2)(iii)(B). For the purposes of the NSLP, "Other vegetables" requirement may be met with any additional amounts from the dark green, red/orange, and beans/peas (legumes) vegetable subgroups as defined in §210.10(c)(2)(iii).

^hAny vegetable subgroup may be offered to meet the total weekly vegetable requirement.

ⁱAt least half of the grains offered must be whole grain-rich in the NSLP beginning July 1, 2013 (SY 2013-2014), and in the SBP beginning July 1, 2013 (SY 2013-2014). All grains must be whole grain-rich in both the NSLP and the SBP beginning July 1, 2014 (SY 2014-15).

^jIn the SBP, the grain ranges must be offered beginning July 1, 2013 (SY 2013-2014).

^kThere is no separate meat/meat alternate component in the SBP. Beginning July 1, 2013 (SY 2013-2014), schools may substitute 1 oz. eq. of meat/meat alternate for 1 oz. eq. of grains after the minimum daily grains requirement is met.

^lFluid milk must be low-fat (1 percent milk fat or less, unflavored) or fat-free (unflavored or flavored).

^mThe average daily amount of calories for a 5-day school week must be within the range (at least the minimum and no more than the maximum values).

ⁿDiscretionary sources of calories (solid fats and added sugars) may be added to the meal pattern if within the specifications for calories, saturated fat, trans fat, and sodium. Foods of minimal nutritional value and fluid milk with fat content greater than 1 percent milk fat are not allowed.

^oIn the SBP, calories and trans fat specifications take effect beginning July 1, 2013 (SY 2013-2014).

^pFinal sodium specifications are to be reached by SY 2023-2023 or July 1, 2023. Intermediate sodium specifications are established for SY 2014-2015 and 2017-2018. See required intermediate specifications in § 210.10(c)(3) for lunches and § 220.10(c)(3) for breakfast.

Culinary I

BASIC SKILLS

More Scratch and Less Processed



Through a grant received from the Baptist Healing Trust, the School Nutrition Committee has set goals that changes the foods served and also the culture in our Healthier Cafes pilot program. The outcomes this committee are seeking to achieve are:

- **To increase** the amounts of fresh fruits and vegetables served
- **To increase** the number of scratch cooked options daily
- **To decrease** the amount of processed foods served daily

In order to measure these outcomes, the School Nutrition Committee has created the definition of Scratch Cooking.

Definition of Scratch Cooking

Scratch cooking is a hands-on, recipe driven approach to food preparation using ingredients in their most natural state. Proper preparation of fresh, 'single item foods' that are un-processed or minimally processed and free from additives and preservatives offers the greatest nutritional value. Cooking methods are appropriately selected to preserve nutrients, enhance taste and visual appeal and to ensure proper food safety.

Weights and Measurements to Portion Control

WEIGHTS AND MEASURES

Weighing ingredients is more accurate than measuring. The quantity of each ingredient in most recipes is given on both weight and volume measure whenever it is practical to do so. Weight alone is used for foods that are not easily measured accurately such as meats, raw fish, and fresh whole vegetables. Volume measure is used for liquids such as water, broth and milk. Volume measure is also used for small quantities of foods weighing less than 2 ounces unless the weight is exactly $\frac{1}{4}$ ounce or a multiple of it.

Weights: Weights are given in pounds and ounces. Fractions of a pound are not used; that is 5 lbs. 4 oz. (not $5\frac{1}{4}$ lbs.), 8 oz. (not $\frac{1}{2}$ lb.). Fractions of an ounce are used as needed when weights of ingredients are less than 2 lb. 8 oz.: For example, $3\frac{1}{4}$ oz., $5\frac{1}{2}$ oz., 1 lb. $12\frac{1}{2}$ oz. Fractions are rounded to whole ounces when the weight of the ingredient is more than 2 lb. 8 oz.; for example, 2 lb. $8\frac{1}{2}$ oz. = 2 lb. 9 oz... In this way, the rounding error is no more than that encountered in food measurements.

Volume Measures: Volume measure is stated in terms of standard measuring utensils, teaspoons, tablespoons, cups, quarts, gallons.

PORTION CONTROL

Portion Control saves times, makes for better customer acceptance and helps stabilize food costs. The key to appealing service is to serve food in the correct portion amount.

In the preparation and serving of food, every device known for cutting and scooping accurately should be used. Use **scoops** which, when properly filled and not over packed, will give a definite yield to the quart. Scoops have many advantages, especially in the serving of potatoes, vegetables, and salads. However, they should not be used when they tend to pack the product or to break it and make it look unappetizing. For example, rice may be kept in a fluffy condition if served with a spoon, rather than packed into a scoop. A large slotted spoon would be better for serving vegetables such as green beans, which might be broken in forcing them into a scoop. Scoops may also be used for portioning such items as mashed potatoes, coleslaw, and casseroles.

In order to obtain the number of servings listed in a recipe, the food should be served with scoops, ladles and spoon of standard sizes.

ABBREVIATIONS YOU SHOULD KNOW

Tsp.	=	teaspoon	gal	=	gallon
Tbsp.	=	tablespoon	No.	=	number
Oz.	=	ounce	Fl. Oz.	=	fluid ounce
Wt.	=	weight	Lb.	=	pound
cup*	=	cup	Doz.	=	dozen
Pt.	=	pint	Qt.	=	quart
#1 can	=	1 cup (ready to serve)	#	=	pound or number
#2 can	=	2½ cups	Cyl.	=	cylinder
Pkg.	=	package	Degrees Fahrenheit	=	oF
Multiply	=	X	Divide	=	÷

*The word “cup” is not abbreviated.

To Help Determine Portion Sizes

SCOOP MEASURES

Scoop No.	Level Measure	Ounces	Approx. Servings Per Quart
6	$\frac{2}{3}$ Cup (10+ $\frac{2}{3}$ Tbsp.)	5.3	--
8	$\frac{1}{2}$ cup (8 Tbsp.)	4	8
10	$\frac{3}{8}$ cup (6 Tbsp.)	3	10
12	$\frac{1}{3}$ Cup (5+ $\frac{1}{3}$ Tbsp.)	2.65	12
16	$\frac{1}{4}$ cup (4 Tbsp.)	2	16
20	3 $\frac{1}{3}$ Tbsp.	1½	18-20
24	2 $\frac{2}{3}$ Tbsp.	1 $\frac{1}{3}$	24
30	2 Tbsp.	1	28-30
40	12 $\frac{2}{3}$ Tbsp.	0.8	44-45

LADLE MEASURES

Ladle Size	Measure	Ladle Size	Measure
1 oz.	2 Tbsp.	12 oz.	1½ cups
2 oz.	$\frac{1}{4}$ cup	16 oz.	2 cups (pt.)
4 oz.	$\frac{1}{2}$ cup	24 oz.	3 cup
6 oz.	$\frac{3}{4}$ cup	32 oz.	4 cups (qt.)
8 oz.	1 cup		

COMMON CAN PORTIONS

Can Size	Cups	Ounces	Fluid Ounces
6 oz.	$\frac{3}{4}$ cup	6 oz.	1 $\frac{1}{2}$ cup
8 oz.	1 cup	8 oz.	2 cup (pt.)
No. 1 (picnic)	1 $\frac{1}{4}$ cup	10 $\frac{1}{2}$ oz.	3 cup
No. 300	1 $\frac{3}{4}$ cup	15 $\frac{1}{2}$ oz.	4 cup (qt.)
No. 303	2 cups	1 lb.	
No. 2	2 $\frac{1}{2}$ cups	1 lb. 4 oz.	
No. 2 $\frac{1}{2}$	3 $\frac{1}{2}$ cups	1 lb. 13 oz.	
No. 3 Cyl	5 $\frac{3}{4}$ cups	2 lb. 14 oz.	
No. 10	12 to 13 cups	6 lb. 9 oz.	

SUBSTITUTING SMALLER CANS

Can Size	Approximate Number of Smaller Cans Equivalent to a Number 10 Can
No. 303	7 cans
No. 2	5 cans
No. 2 $\frac{1}{2}$	4 cans
No. 3 Cyl.	2 cans

MEASURES FOR PORTION CONTROL

No. 6 Disher	=	$\frac{2}{3}$ cup
No. 8 Disher	=	$\frac{1}{2}$ cup
No. 12 Disher	=	$\frac{1}{3}$ cup
No. 16 Disher	=	$\frac{1}{4}$ cup
No. 24 Disher	=	2 $\frac{2}{3}$ Tbsp.

HOW MUCH DOES IT TAKE TO MAKE A POUND?

2 cups Sugar	1 Pound
2 cups Butter	1 Pound
1 quart + $\frac{1}{3}$ cup Flour	1 Pound
$5\frac{1}{3}$ cups powdered sifted dry eggs	1 Pound
3 cups Cornmeal	1 Pound
$3\frac{3}{4}$ cups Macaroni (Dry)	1 Pound
$7\frac{1}{4}$ cups Noodles (Dry)	1 Pound
5 cups Rolled Oats (Dry)	1 Pound
6 cups Spaghetti (Dry)	1 Pound
4 cups Pecans	1 Pound
$3\frac{1}{4}$ cups Peanuts	1 Pound
3 cups Raisins (Dry)	1 Pound
$3\frac{1}{4}$ cups Non-Fat Milk (Dry)	1 Pound
$1\frac{1}{3}$ cups Honey	1 Pound

EQUIVALENT COMMON FOOD MEASURES

3 teaspoons	1 tablespoon
2 tablespoons	$\frac{1}{8}$ cup
4 tablespoons	$\frac{1}{4}$ cup
$5\frac{1}{3}$ tablespoons	$\frac{1}{3}$ cup
8 tablespoons	$\frac{1}{2}$ cup
$10\frac{2}{3}$ tablespoons	$\frac{2}{3}$ cup
12 tablespoons	$\frac{3}{4}$ cup
16 tablespoons	1 cup
2 cups	1 pint
4 cups	1 quart
8 cups	$\frac{1}{2}$ gallon
16 cups	1 gallon
2 pints	1 quart
4 quarts	1 gallon
8 quarts	1 peck
4 pecks	1 bushel
16 ounces	1 pound

EQUIVALENT COMMON FOOD MEASURES

Baking Powder	1 oz.	$2\frac{1}{2}$ Tbsp.
Baking Soda	1 oz.	2 Tbsp.
Cake Crumbs	3 oz.	1 cup
Cardamom, Ground	1 oz.	5 Tbsp.
Chocolate, Grated	1 oz.	4 Tbsp.
Cinnamon, Ground	1 oz.	$4\frac{1}{2}$ Tbsp.
Cocoa	1 lb.	$4\frac{1}{4}$ cups
Cream of Tartar	1 oz.	3 Tbsp.
Eggs, Whole (10)	1 lb.	2 cups
Eggs, Whites (18)	1 lb.	2 cups
Eggs, Yolks (24)	1 lb.	2 cups
Flour (Sifted)	1 lb.	$4\frac{1}{2}$ cups
Honey	11 oz.	1 cup
Lemon Juice	1 oz.	2 Tbsp.
Lemon Zest	1 oz.	4 Tbsp.
Mace, Ground	1 oz.	4 Tbsp.
Milk, Evaporated	1 lb.	$2\frac{1}{4}$ cups
Milk, Liquid	1 lb.	2 cups
Milk, Powdered	1 lb.	4 cups
Nutmeats, Chopped	4 oz.	1 cup
Oil, Salad	7 oz.	1 cup
Orange Rind	1 oz.	4 Tbsp.
Salt	1 oz.	2 Tbsp.
Shortening	1 lb.	$2\frac{1}{2}$ cups
Sugar, Brown	1 lb.	3 cups
Sugar, Granulated	1 lb.	$2\frac{1}{4}$ cups
Sugar, Powdered(Icing)	1 lb.	$3\frac{1}{2}$ cups
Vanilla	1 oz.	2 Tbsp.
Water	1 lb.	2 cups
Yeast	$\frac{1}{2}$ oz.	1 cake

PANNING

When pans of a certain size are needed for satisfactory baking results or as a guide in portioning, the dimensions, the number of pans required, and the volume or weight of food per pan may be included in the directions. Pan size may not be given for food portioned before baking such as meat patties, rolls, biscuits and cookies.

Example: Pour into 4 greased baking pans (about 12 X 20 X 2 inches), about 5 lbs. or 2¼ quarts per pan.

CAPACITY CHART FOR STEAMTABLE PANS

Size pan (inches)	Depth (inches)	¹ Capacity (quart)	Size Portion		No. Portion Yield
			(Cup)	(Scoop)	
Full Size (12" X 20")	2¼	7½ 7 qt., 2 cups	¼ ⅓ ½	#16 #12 #8	120 100 60
Full Size (12" X 20")	4	13 qt.	¼ ⅓ ½	#16 #12 #8	208 156 104
Full Size (12" X 20")	6	19½ 19 qt., 2 cups	¼ ⅓ ½ 1	#16 #12 #8 8 oz. ladle	304 234 152 76
Half Size (12" X 10")	2¼	3¾ 3 qt., 3 cups	¼ ⅓ ½"	#16 #12 #8	60 50 30
Half Size (12" X 10")	4	6½ 6 qt., 2 cups"	¼ ⅓ ½	#16 #12 #8	104 78 53
Half Size (12" X 10")	6	9¾ 9 qt., 3 cups	¼ ⅓ ½ 1"	#16 #12 #8 8 oz. ladle	152 117 76 38
Third Size	6	5¾ 5 qt., 3 cups	⅛ ¼ ⅓	2 Tbsp. #16 #12	185 92 75

¹All capacities are figured on pans being filled to ½ inch from top of rim.

APPROXIMATE DIMENSIONS OF SERVING SIZES FROM DIFFERENT PAN SIZES

Pan	Approximate Pan size (inches)	Number and approximate size of servings per pan		
		25	50	100
Baking or steam table	12" X 20" X 2"	2" X 3¾"	2" X 2"
Sheet or bun	18" X 26" X 1"	3¼" X 5"	3¼" X 2½"	1¾" X 2½"

Culinary Knife Skills

Culinary Arts Knife Skills

Knife skills are one of the most important parts of the culinary arts. This section of the training guide will help you to learn more about and to practice your knife skills.

Chef's Knife Overview

The chef's knife is probably a cook's most important tool. And given the amount of time it spends in your hand, it's definitely worth making sure you have a good one.

The best knives are forged from a single piece of steel that runs the entire length of the knife. Read on for a quick tutorial on the various parts of a chef's knife, what they do and why they're important.

Chef's Knife Blade

The best chef's knives are made of high-carbon stainless steel, which is a very hard metal that keeps its edge for a long time and won't discolor or rust like ordinary carbon steel.

To be sure, knives made from ordinary carbon steel aren't necessarily inferior. Some chefs love them, because the relatively softer metal makes them easier to sharpen. Of course, they go dull more easily, too.

Chef's knives are measured in inches, and lengths of 8" to 12" are common. A longer blade lets you make longer single-stroke cuts when slicing. The so-called "German" style of chef's knife tends to have a more curved section at the front of the blade, good for chopping in an up-and-down "rocking" motion.

The "French" style is straighter, and more triangular, which is good for a "slicing" type of motion where the knife is drawn straight back toward you.

Chef's Knife Handle

Unless you're very unlucky, the part of a chef's knife you'll have the most contact with is the handle. So you'll want to make sure it's comfortable and fits your hand. It shouldn't feel slippery or cause you to have to grip excessively hard.

Chef's knife handles have traditionally been made of wood, but wooden handles present certain problems. For one, because wood is porous, knife handles made of wood can harbor bacteria that cause food-related illness. Many local health departments prohibit the use of wooden-handled knives in commercial foodservice.

Bacteria can also grow in the tiny cracks where the wood joins the steel or around the rivets. Wooden handles don't fare well in the dishwasher, either, though to be fair, you shouldn't be running your knife through the dishwasher in the first place. Still, even soaking a knife can cause its wooden handle to warp or crack.

For these reasons, knives with plastic or rubber handles are increasingly popular.



Additionally, some handles are made from a composite material consisting of wood that has been treated with plastic resin. That gives them the traditional appearance of wood, which many people find appealing, while avoiding the sanitation concerns associated with wooden handles.

Chef's Knife Heel



The heel is the widest part of the knife, located at the rear of the blade where it meets the handle. This section of the cutting edge is used for chopping hard items like carrots, nuts or even chicken bones.

Knives with longer blades produce greater leverage, thus generating greater cutting force at the heel of the blade. A heavier knife also increases cutting force, but it's more tiring to use, too.

Chef's Knife Tang



As mentioned earlier, the best knives are forged from a single piece of steel that runs the entire length of the knife. That means the steel extends all the way into the handle. The section of steel inside the handle is called the tang, and if it goes all the way to the end of the handle, it's called a "full tang."

In addition to providing strength, full-tang construction offers better balance, making a knife easier to use.

Chef's Knife Rivets



Rivets are the raised, cylindrical studs that keep the handle securely attached to the tang portion of the knife. This type of construction is typical of knives with wooden handles. If rivets are present, make sure that their tops are smooth and that they don't protrude from the handle at all.

Plastic and Rubber handled knives will probably not have rivets in the handles.

Holding and Using a Chef Knife

How to Grip the Knife

Here, we will cover the correct way to hold a chef's knife, and how to grip the food with your other hand to avoid cutting yourself. You may want to review *The Anatomy of a Chef's Knife* before getting started.

This photo illustrates the proper chef's knife grip as seen from the inside or thumb-side of the cutting hand. The thumb grips the knife around the top of the blade, with the hand wrapped around the bolster of the knife.

While beginners find that this takes some getting used to, it definitely provides extra control over the blade.



Proper Chef's Knife Grip: Outer View

Here we see the same grip from the opposite side. Note how the index finger is wrapped fully around the blade. The index finger and thumb should be opposite each

other on either side of the blade while the remaining three fingers are sort of loosely curled around the handle.

Note that you should be gripping the knife mainly with the thumb and forefinger. If you find that you're tightly clutching the entire handle of the knife, just relax and loosen up. With practice you'll get used to this grip, and soon any other grip will feel very unnatural.



Secure the Food With the Guiding Hand

Now that your knife hand knows what to do, we need to make sure your other hand does, too. Your non-knife hand is called your “guiding hand,” and its job is to hold the food to keep it from sliding around on the cutting board. This puts it in a uniquely dangerous position. With the knife blade flying up and down, you need to keep those fingertips tucked safely away, while still being able to firmly hold the food.

The grip shown here is called the “claw grip” and as you can see, by keeping the fingers curled inward and gripping the food with the fingernails, the fingers stay out of harm's way. The side of the knife blade actually rests against the first knuckle of the guiding hand, which helps keep the blade perpendicular to the cutting board.



Alternate Claw Grip

In this modified version of the claw grip, the first knuckle of the guiding hand rests flat on the food product, with the fingers again curled inward safely. And this time the knife rests against the second knuckle rather than the first.

Each of these claw grips is acceptable, so use whichever one you feel comfortable with.



Basic Knife Cuts and Shapes

Even if you don't work in a commercial kitchen, developing your knife skills will help improve the quality of the food you cook. Here's how:

1. Uniform cooking times.

Large pieces of vegetables take longer to cook than smaller ones. So if you're sautéing carrots that are cut to different sizes and shapes, you'll either overcook the smaller pieces by the time the bigger ones are done, or you'll cook the smaller pieces properly but leave the bigger ones undercooked. Consistent cutting technique ensures your food is cooked to a uniform degree of doneness.

2. Enhanced visual appeal.

Again, it's the art part of the culinary arts. Of course, no one's going to take out a ruler and measure your knife cuts — unless you're in culinary school. But sloppy knife work makes for a sloppy-looking dish.

Skilled knife work indicates a cook who takes pride in their work and doesn't take shortcuts. It's a way of paying a compliment to whoever you're serving the dish to — saying to them, in effect, “You're worth the trouble.”

Cooking with Condiments & Herbs

Herbs, spices, and condiments are used to add flavor to the foods we prepare or ones that are already prepared. When you blend both with the flavors of other foods it tends to create a new flavor and provide flavor enhancement to the foods you are preparing. Herbs are and can be fresh or dried as well as frozen. Spices are any dried part of a plant other than the leaves and each spice has its own aroma. Condiments are used traditionally as flavored sauces to accompany foods you are serving. Working with herbs, spices and the use of condiments can be fun but you must understand how to use them with the food to enhance the flavor of the foods you are serving. Using herbs or spices incorrectly would result in ruining the flavor of the food. Working with herbs and spices and experiencing them is the best teacher.

Cooking with Condiments and Herbs

Condiment	Description	Uses
Barbecue sauce	A mixture of brown sugar, ketchup, chili sauce, green pepper & vinegar.	Used on meats that are broiled, grilled, roasted & baked.
Chili sauce	Cooked, fresh, red chiles with spices, vinegar, salt, sugar & garlic are combined in chili sauce.	Used with seafood & meats.
Ketchup	A mixture of tomatoes, sugar, vinegar & salt.	Used on most fried foods, grilled meats & hotdogs.
Steak sauce	A mixture of tomatoes, vinegar, raisins, salt, spices, herbs, orange base, garlic & onions.	Commonly used on meats.
Salsa	Chile peppers, tomatoes, onion, cilantro, lime juice, salt & spices.	Used on chicken, steak, potatoes, tortillas, tacos & eggs.
Hot sauce	A red pepper sauce.	Used in soups, stews, vegetables & eggs.
Chinese soy sauce	Salty mixture of soybeans, salt & wheat.	Used on vegetables, rice, meat, fish & casseroles.
Sweet & sour sauce	A mixture of fruit, vinegar & sugar.	Used on chicken, fish, pork & glazes.
Mustards	Combination of ground white, black & brown mustard seeds.	Used on pork, beef, vegetables, cold cuts, sandwiches, salads & sauces.
Balsamic vinegar	Made from red wine vinegar that has been aged in wooden barrels.	Used in dressings, salads & dips.
Cider vinegar	Made from apple cider. More acidic than white vinegar.	Used in dressings & sauces.
Fruit-flavored Vinegars	Produced by steeping fresh fruits in vinegar.	Used in salads, dressings & dips.
Taco sauce	A blend of tomato sauce, vinegar, sugar, chili powder, cumin, garlic powder, onion powder, paprika & cayenne.	Used with meats, rice dishes, dips & salads.
Tartar sauce	A mixture of mayonnaise, onion, lemon juice & sweet pickle relish.	Used with seafood, vegetables & hush puppies.
Mayonnaise	A mixture of oil, egg yolks, lemon juice or vinegar & salt.	Used in sandwiches, salad dressings, dips & many casserole dishes

Cooking with spices

Spice	Description	Uses
Allspice	Combines the flavors of nutmeg, clove & cinnamon. Available dry, whole or ground.	Whole allspice is used with pickles, meats, fish, sausages & sauces. Ground allspice used in pies, cakes, puddings, relishes & preserves.
Anise seeds	Strong licorice-like aroma & flavor. Available whole or ground.	Used with breads, cakes, cookies, candies & fish sauces.
Cardamom	In the ginger family. Has a sweet, almost pepper-like flavor & aroma. Available whole or ground.	Used in curries, sweet dishes, yogurt & baked goods.
Cinnamon	A warm, spicy aroma & flavor. Available dried or ground.	Used in cakes, cookies, pies, curries, sweet potatoes, meat stuffings & preserves.
Celery seeds	A strong celery flavor. Available whole, ground or mixed with salt.	In whole form used in sauces, salads, cole slaw & pickling. In ground form it is used in soups, stews & salad dressings.
Chili powder	A blend of cumin, garlic, onion & chili peppers. Available ground.	Used in chili, egg dishes & meat dishes.
Cayenne	Strong flavor that adds a “kick. Comes from hot red peppers ground into powder.	Used with meat, fish, eggs, poultry, soups, sauces & salads.
Cumin	In the parsley family, gives chili its distinctive flavor. Available whole or ground.	Flavors chicken, fish, curries, cous-cous, sausages & hard cheeses.
Chiles	Can be mild, sweet or extremely hot. Comes in many colors. Available fresh & dried	used in salads, pickles, sauces, vegetable dishes, salsas & meat dishes.
Dill seeds	Seeds of the dill plant. Slightly sharp taste & distinct odor.	Used in soups, salads, sauerkraut & fish.
Fennel seeds	In the parsley family. Mild, anise-like flavor.	Used in breads, crackers, sausages, tomato sauce & marinades.
Saffron	Yellow spice from the crocus plant. Has a sweet scent but a bitter taste. Most expensive spice in the world. Comes dried, ground or as whole threads.	Used in the spanish rice dish, paella, and the italian rice dish risotto milanese.
Pepper & Peppercorns	Woody vine produces grape-like clusters of small berries. 4 Varieties: green, black, white and pink. Comes whole or ground.	Used in a wide variety of dishes to add flavor.
Nutmeg	Fruit or seed from evergreen nutmeg tree. Sweet, warm, spicy flavor.	Soups, sauces, chicken, potatoes, custards & many baked items.
Mustard seeds	In the watercress family with a tangy flavor. Available whole, ground or prepared as a condiment.	Used in salads, salad dressings, sauces, meats, fish, cheese & eggs.
Paprika	From dried, ripe, red sweet peppers. Whole, ground, diced & canned.	Soups, stews, sauces, salad dressings, fish & tomato dishes.
Ginger	From the root of a native asian plant. A strong peppery flavor. Available fresh, sliced or ground.	Used with fish, poultry, curries, baked goods & fruits.

Spice facts: spices are obtained from the bark, buds, fruits, roots, seeds or stems of plants & seeds.

Cooking with herbs

Herb	Description	Uses
Basil	Mild licorice-like flavor. Available fresh, dried, crushed or ground.	Soups, tomato sauce, salads, pizza, vegetables, chicken & pasta.
Bay leaf	From the evergreen bay laurel tree. Commonly dried.	Soups, stews, vegetables & meats.
Chervil	Slightly peppery taste. Available fresh, dried, crushed or ground.	Soups, sauces, salads, fish, shellfish & baked goods.
Chives	Delicate onion flavor. Fresh, dried or frozen.	Soups, sauces, dips, spreads, breads & soft rolls.
Cilantro	Distinct odor & unique flavor. Fresh, chopped or frozen.	Sauces, salsa & to add flavor to different dishes.
Dill	Distinct flavor commonly associated with pickles. Fresh or dried.	Soups, salads, breads & used to flavor vegetables & fish dishes.
Garlic chives	Mild garlic flavor. Available fresh.	Breads, soft rolls, soups, sauces, dips & spreads
Lemon grass	Base of fibrous grass has a lemony flavor. Comes in fresh stalks.	Curries & many spicy dishes
Marjoram	In the mint family with a warm mild flavor. Available fresh, dried, crushed or ground.	Soups, stews, gravies, sauces, and many poultry, fish & meat dishes.
Mint	Many varieties including peppermint & spearmint. Available fresh or dried.	Sauces, peas, lamb sweet dishes, pastries, tea, & ice cream. Often paired with chocolate & fruit beverages.
Oregano	Slightly bitter taste. Fresh, dried, as leaves or ground.	Soups, sauces, tomato dishes, pizza, & meat & egg dishes.
Parsley	Soothing effect on taste buds. Fresh, dried, leaves or flakes.	Soups, sauces & dressings. Chopped & used to add color to foods
Rosemary	Member of mint family with strong flavor & aroma. Fresh, dried, whole or ground.	Soups, stews, sauces & baked goods.
Sage	In mint family. Available fresh, dried, whole or ground.	Soups, stews, stuffings & sausages. Seasoning for poultry & pork.
Savory	Another member of mint family. Has a spicy taste. Fresh, dried, whole or ground.	Meat & fish dishes, chicken, eggs, stuffings and in many baked goods.
Taragon	Flavor is a cross between mint & anise. Fresh or dried crushed leaves.	Salad dressings, mustards, marinades, vinegar, sauces & soups. Also used with chicken, veal & fish.
Thyme	Sharp & spicy flavor. Available fresh, dried, crushed leaves or ground.	Used in meat, poultry & fish dishes, as well as in soups & baked goods.
Poultry Seasonings	A mixture of thyme, sage, marjoram, rosemary, black pepper & nutmeg.	Used in turkey & chicken dishes, pot pies, stuffing & soups.

Herb facts: herbs are plants grown in temperate or mild climates. The parts of the plant that are harvested & used as herbs are the leaves & stems.

Minimum Internal Cooking Temperatures Fact Sheet

Here are some minimal internal cooking temperatures for several common food items:

After safely preparing food, you must cook it to the correct minimum internal temperature to reduce dangerous microorganisms to safe levels. Temperatures vary from item to item. Always use a thermometer to verify final cooking temperatures.



Product	Cooking Temperature
Poultry (including whole or ground chicken, turkey, and duck)	165°F (74°C) for 15 seconds
Stuffing <ul style="list-style-type: none"> ● Stuffing made with potentially hazardous ingredients ● Stuffed meat, fish, poultry, and pasta 	165°F (74°C) for 15 seconds
Dishes containing potentially hazardous ingredients	Previously cooked ingredients: 165°F (74°C) for 15 seconds; cook raw ingredients to their required minimum internal temperatures
Ground meat (all meat or fish)	155°F (68°C) for 15 seconds
Injected meats	155°F (68°C) for 15 seconds (brined hams and flavor injected roasts)
Pork, beef, veal, and lamb	Steaks, Chops: 145°F (63°C) for 15 seconds Roasts: 145°F (63°C) for 4 minutes
Fish	145°F (63°C) for 15 seconds
Eggs for immediate service	145°F (63°C) for 15 seconds; eggs to be hot held: 155°F (68°C) for 15 seconds

When cooking in a microwave oven:

- Cover food to prevent drying.
- Cook food to 165°F (74°C).
- Rotate or stir food halfway through cooking.
- Take food's temperature and let stand for two minutes after cooking.

Culinary II

PREPARATION

Preparing Meats, Poultry, and Fish



Main Ideas in This Lesson

- There is some fat in all meat, poultry, and fish. Some products have more fat than others.
- Meats should be cooked to their prescribed internal temperature. Over cooking will cause loss of flavor, nutrients, quality and presentation.
- Culinary techniques for cooking meat, poultry, and fish can be divided into those that use dry heat or moist heat.
- Whenever meat, poultry, or fish products are cooked, use ways to reduce the fat.

Culinary Principles

A **culinary technique** is a step-by-step way to prepare a quality food product. Using a good recipe and the right culinary technique, meat, poultry, or fish can be prepared to meet **quality standards**. Seasonings and spices can be used to add variety to the flavor of cooked meats. **Recipes** should be used as a guide when adding seasonings.

This lesson is about basic cooking of meat, poultry, and fish from scratch. The term **meat** includes beef, pork, lamb, and veal. The principles and culinary techniques can be used with all of these meats, as well as with turkey or chicken, and with fish.

Check for Doneness

The only way to be sure a meat or poultry product is cooked until done is to use a **meat thermometer** or a stem-type thermometer to test internal temperature of the product. Meats should be cooked to their prescribed internal temperature. The temperature of meat, poultry, and fish is very important to be sure that the food is safe. **Undercooking** a meat, poultry, or fish product could lead to an outbreak of foodborne illness or food poison.

Overcooking a meat, poultry, or fish dish will cause

- the yield to be less than the number of servings planned;
- the flavor to be lost;
- the meat to be tough because the protein; structure has been changed; or
- the meat, poultry, or fish product to be dry.

Reduce the Fat

All meat, poultry, and fish has some fat in the meat. Here are some suggestions for **reducing the fat** when cooking:

- Cook ground beef until done and then drain it well using a colander. Current USDA recommendations state that ground beef should be drained but not rinsed after it is cooked.
- Rinsing is not recommended because it causes the meat to lose flavor and causes the temperature to drop into the **Danger Zone** (41 °F–135 °F).
- Cook ground beef patties in the oven on a rack so the fat can drain off. Another option is to use a pan liner and drain the patties after cooking.
- Trim off visible fat on any solid meat product before it is cooked. Because fat carries flavor, reduced fat recipes may need to have added seasonings. Follow the recipe.
- Drain off any fat and liquid from cooked meat before it is placed in the warmer or on the serving line. Do not let meat remain in the fat from cooking.

KEEPING IT SAFE...

Taking the Temperature

It is important to use a thermometer when cooking meat, poultry, and fish because food safety is one of the highest priorities in a school nutrition program. To be safe to eat, all meat, poultry, and fish should be cooked to an internal temperature of 165 °F. Meat, poultry, and fish, as well as all potentially hazardous foods, should be held at 135 °F or above. The recommended serving temperature for meat is 150 °F–180 °F; for poultry the serving temperature is 165 °F–180 °F. The only way to know the internal temperature of a food is by using a thermometer.

A meat thermometer can be used when roasting larger pieces of meat. It should be placed in the thickest part of the meat, avoiding bone or fat. The meat thermometer should be left in the meat throughout the

cooking process. A stem-type thermometer is used to test the temperature of any food by inserting it into the thickest part, avoiding bone or fat, or the cooking pan. The thermometer is then read when the temperature registers. It should not be left in the meat during cooking. Remember to clean and sanitize the stem of the thermometer before using it for another food.

Thawing Frozen Meat

Thawing frozen meats is another food safety concern. Frozen meats, like turkey, beef roasts, or chicken, should be thawed in the refrigerator at 40 °F or less. Of course, this may take 24 hours or more, so it is important for the manager to plan the production schedule and determine when the food should be moved from the freezer to the refrigerator. **Never thaw any food product by leaving it at room temperature or placing in warm water.**

- Cool cooking liquids using proper cooling technique, to be used for a sauce in the refrigerator so the fat hardens. Then remove the fat and reheat the remaining flavored liquid to prepare a sauce, gravy, or serve as is.
- Cook chicken without the skin to reduce the fat. Poultry carries a layer of fat just under the skin. It is recommended the skin not be eaten to reduce the fat in a poultry product. This means that either the poultry product should be skinned before cooking or skinned by the customer before eating. When cooking skinless poultry, such as skinless chicken breasts, follow a recipe that includes a way to prevent the skinless pieces from drying out. This may include marinating the breasts before cooking, cooking in a sauce, or using a recipe such as oven-fried chicken.

Culinary Techniques Used to Cook

There are many different culinary techniques used to cook meat, poultry, and fish. They can be organized into two groups.

- **dry heat**
- **moist heat**

Dry-heat Cooking

Dry-heat cooking has no added moisture and is used for more tender pieces of meat, poultry, and fish. These culinary techniques include broiling and grilling, roasting (or baking), and cooking with heated fat, such as frying or pan-grilling.

Dry-heat techniques can be used to cook:

- meats like some roasts, steaks and other quality
- cuts of beef, and ground meats,
- ham and other pork products,
- turkey and chicken, and
- fish filets and nuggets.

Moist-heat Cooking

Moist-heat cooking includes a variety of techniques where some liquid is added during the cooking process. The culinary techniques include braising, stewing, and poaching.

Meat, poultry, and fish that is tougher should be cooked using a moist-heat culinary techniques in order to tenderize it. Tender products like fish and poultry can also be cooked by a moist-heat culinary technique such as poaching.

Braising and **stewing** are combinations of a dry-heat and moist-heat techniques. The first step is the dry-heat technique called searing which provides flavor and color. Liquid and flavorings are then added and the product is simmered until done. When this technique is used with a large piece of meat it is called braising. The same technique used for smaller pieces of meat, poultry, or fish is called stewing.

Roasting and Baking

Roasting or **baking** is the technique used in cooking meat, poultry, or fish in the oven without liquid and without a cover on the cooking vessel.

1 . Remove all visible fat from all cuts of meat, poultry or fish.

2 . Season

Follow the recipe. Add appropriate seasonings and flavorings to replace flavor lost when fat is removed. If a meat thermometer is used, place it in the thickest part of the meat, away from bone or fat. Since salt penetrates meat only about an inch and retards browning, most recipes suggest adding salt at the end of cooking. Do not add salt unless the recipe calls for it.

3 . Place in the cooking utensil

Do not cover and do not add any liquid. Place meat on a rack when appropriate so fat will drain and hot air can circulate on all sides.

4 . Roast or bake in a slow oven until the internal temperature

Meats should be cooked to their prescribed internal temperature. Follow the recipe for the oven temperature.

5 . Remove from the oven and serve .

For large pieces of meat, like a turkey or a large roast, allow the meat to sit in a warm place for about 15 minutes before carving or slicing. This makes the meat firmer, juicier, and easier to slice. Meats should be sliced across the grain.

6 . Hold cooked meat and poultry the correct way .

If the meat or poultry will not be served immediately, it should be covered and kept in a warmer at the correct temperature or chilled in the refrigerator. Never hold a meat product at room temperature.



Dry Heat – Sautéing

Sautéing is using high heat and a small amount of fat to cook meat, poultry, and fish rapidly. Searing and stir-frying are also a sautéing technique.

1 . Prepare the meat or poultry by making sure it is dry .

If a marinade has been used, drain it thoroughly and pat the food dry. Food with a lot of moisture will steam rather than sauté.

2 . Add oil to the pan according to recipe .

A tilting braising pan is ideal for this technique. Measure the oil carefully.

3. Heat the oil; add the meat, poultry, or fish.

The meat, poultry, or fish pieces should be added to the pan in a single layer. If the pieces are touching, the product will steam, not sauté.

4. Cook the meat by gently turning until browned

...on all sides and cooked evenly. Some recipes suggest that the cooked meat be removed from the pan and the remaining flavored juices be used to make a sauce. Follow the recipe.

5. Hold cooked meat and poultry the correct way.

Sautéed meals should be cooked in batches just-in-time for service. Covering a sautéed food during holding causes it to steam and the advantages of the sauté technique are lost. Serve immediately. Never hold a meat product at room temperature.

Moist Heat - Braising and Stewing

Braising and **stewing** are a combination of **dry-heat** and **moistheat** cooking used for less tender cuts of meat. Braising is used for large cuts of meat. The same technique is called stewing when used for bite-sized pieces of meat, poultry, or fish.

1. Trim fat and prepare meat according to the recipe.

2. Sear the meat on all sides.

Searing meat before braising or stewing adds color and flavor. Follow the recipe to use a small amount of oil or preferably, no oil. Brown the meat on all sides in a hot pan. For large pieces of meat, use a pan in the oven or a steam-jacketed kettle. For smaller pieces, use a tilting braising pan, a grill, or brown in a hot oven.

3. Add the seared meat back to the cooking pan

...along with the liquid for cooking. Follow the recipe and avoid using too much liquid, which weakens the flavor of a sauce made with the liquid.

4. Cover tightly and simmer until tender

Follow the recipe for the temperature and time for the equipment being used. Do not allow the liquid to boil. The size of the cut of meat and the kind of meat will also influence the cooking time. Braised or stewed meats are done when they are tender.

5. Remove the meat from the cooking liquid.

Some recipes suggest the cooking liquid be cooked an additional time to reduce the volume and concentrate the flavor. The cooking liquid may also be thickened with a roux or slurry. How to thicken using a roux or slurry is described in the lesson on preparing sauces.

6. Hold cooked meat and poultry the correct way.

If the meat, poultry, or fish will not be served immediately, it should be covered and kept in a warmer at the correct temperature or chilled in the refrigerator. Never hold a meat product at room temperature.

Working With Vegetables



Main Ideas in This Lesson

- The way a vegetable is prepared affects its nutrient content.
- Overcooking vegetables destroys nutrients and results in poor texture, appearance, and taste.
- Vegetables should be cooked in batches for just-in-time service so they are at their peak of quality.
- There are many techniques for cooking vegetables. This lesson describes steaming, stir-frying, and roasting.
- Instead of using just salt and butter or margarine to season vegetables, try seasonings that include herbs or spices.

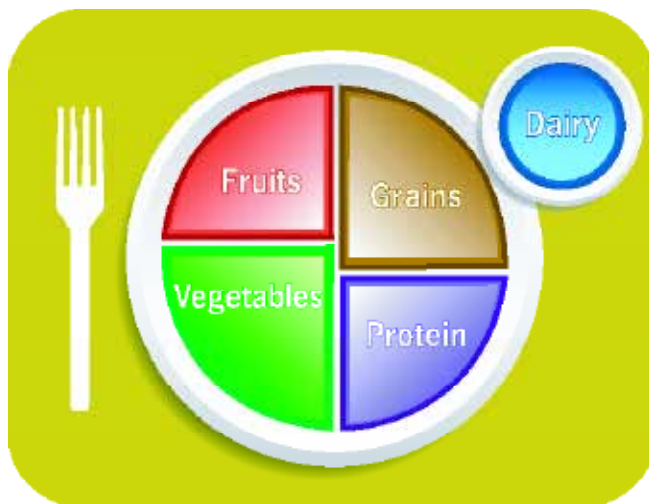
Children should eat 1 to 3 cups of vegetables each day.

According to MyPlate:

- Eating a diet rich in fruits and vegetables as part of an overall healthy diet may reduce risk for stroke and perhaps other cardiovascular diseases.
- Eating a diet rich in fruits and vegetables as part of an overall healthy diet may

reduce risk for type 2 diabetes.

- Eating a diet rich in fruits and vegetables as part of an overall healthy diet may protect against certain cancers, such as mouth, stomach, and colorectal cancers.
- Diets rich in foods containing fiber, such as fruits and vegetables, may reduce the risk of coronary heart disease.
- Eating fruits and vegetables rich in potassium as part of an overall healthy diet may reduce the risk of developing kidney stones and may help to decrease bone loss.
- Eating foods such as vegetables that are low in calories per cup instead of some other higher-calorie food may be useful in helping to lower calorie intake.



Vegetables are packed with nutrients for children:

- Most vegetables are naturally low in fat and calories. None have cholesterol. (Sauces or seasonings may add fat, calories, or cholesterol.)
- Vegetables are important sources of many nutrients, including potassium, dietary fiber, folate (folic acid), vitamin a, vitamin e, and vitamin c.
- Diets rich in potassium may help to maintain healthy blood pressure.
- Dietary fiber from vegetables, as part of an overall healthy diet, helps reduce blood cholesterol levels and may lower risk of heart disease.
- Vitamin A keeps eyes and skin healthy and helps to protect against infections.
- Vitamin E helps protect from cell oxidation.
- Vitamin C helps heal cuts and wounds and keeps teeth and gums healthy.
- Vitamin C aids in iron absorption.

Keeping the Nutrients

The way a vegetable is prepared can affect the nutrient content. Some nutrients can be destroyed by heat and some dissolve in water. The culinary techniques described in this lesson are based on culinary principles designed to keep the nutrients in vegetables.

Remember, **keep the nutrients in vegetables.**

- Keep the vegetables in big pieces.
- Cook in just a little water (if any).
- Cook only a short time.

There are several **culinary techniques** used to prepare vegetables, including steaming, stir-frying, roasting, boiling, sautéing, and others. A **recipe** will describe the right culinary technique as part of the directions.

Basic Principles of Cooking Vegetables to Maintain Nutrients

Cook vegetables in the smallest amount of liquid possible.

Vegetables have some vitamins that dissolve in water and are lost when the cooking liquid is discarded. Water soluble vitamins are vitamins that dissolve in water. The common water soluble vitamins are **C and the B vitamins riboflavin, thiamin, and niacin.**

Cook vegetables the shortest amount of time for the desired tenderness.

Vegetables have some vitamins that are destroyed by heat so long cooking means they provide less vitamins.

For vegetables that have a skin, scrub well and cook with the skin on whenever possible.

If the vegetable must be peeled, peel as thinly as possible. Vegetables usually have a valuable layer of nutrients which is right under the skin. Peeling can remove many nutrients. (Examples: potatoes, carrots, parsnips, turnips.)

When vegetables are cut, use a sharp blade and cut in the largest pieces that are desirable for the recipe.

Pieces should be uniform to allow for even cooking. Large pieces help preserve the nutrient content of the vegetable. A sharp blade in a piece of equipment or a knife will make a clean cut instead of bruising the vegetable. Bruising causes a rapid loss of vitamin C from some green, leafy vegetables such as cabbage and other greens.

Follow the recipe or directions for cooking a vegetable.

Recipes and general directions for cooking a vegetable are based on using the right culinary technique. Adding some ingredients actually destroys certain nutrients. For example, adding baking soda to green vegetables during cooking destroys some B vitamins as well as vitamin C.

Cook vegetables just-in-time for service on the line.

Holding vegetables after cooking causes loss of nutritive value and quality. Plan food production so that vegetables can be cooked and immediately placed on the serving line. Remember that cooking will continue when the vegetable is placed on the steam table. Vegetables are best when they are held for less than 20 minutes.

Working with Fruits

Main Ideas in This Lesson

- Fruits provide important vitamins, minerals, and other nutrients.
- Fruits are low in fat.
- Fruits are stored at the right temperature for best quality.
- Fresh fruits should be washed right before use and served in the largest acceptable serving pieces.
- Recipes require the right form (fresh, frozen, canned, or dried) to be successful.

Basic Principles of Preparing Fruits to Maintain Nutrients

1. Use fresh fruits at their peak of ripeness.

Most fruits have the highest vitamin content when they are at their peak of ripeness. Heat and light can destroy the nutrient content. They taste the best when they are ripe. Fruits that are not ripe enough are generally tart where they should be sweet, and crunchy where they should be soft. Less time spent in transportation from field to plate helps ensure a fresher fruit at its peak of flavor and nutrient content.

2. Wash fresh fruits in cool water before they are peeled or stemmed.

The skin may not be clean so washing before processing removes the dirt and pesticides. Fruits served with the skin left on should be washed carefully. This includes oranges and melons. Apples are covered with an edible wax that is not removed during washing. Wash apples in cold water. Bananas should also be rinsed in cold water before serving or peeling.

3. Cut fresh fruits in the largest pieces that are acceptable for serving, considering the age of the student.

Avoid crushing fruits since this injures the fruit cells and causes more vitamin loss. When fruit is cut in many smaller pieces, more total surface area of the fruit is exposed and more vitamin C can be lost.

4. Follow the recipe or directions for preparing a fruit dish.

Recipes or the general directions for preparing a fruit dish are based on well-accepted culinary techniques that preserve nutrients. Fruits can lose nutrients if they are bruised or cut and then put in water. Berries are a good example. Wash strawberries before they are hulled. The skin may not be clean so washing before processing removes the dirt and pesticides. Fruits served with the skin left on should be washed carefully. This includes oranges and melons. Apples are covered with an edible wax that is not removed during washing. Wash apples in cold water. Bananas should also be rinsed in cold water before serving or peeling.



Salad Bars/In-Line



Research and experience have shown that school children significantly increase their consumption of fruits and vegetables when they are given a variety of choices at a school fruit and vegetable salad bar. This experience can lead to a lifetime of healthy food choices. Therefore, public and private agencies throughout the country are working together to expand the use of salad choice bars.

A salad bar is a great way to add excitement to your lunch meals and increase consumption of fruits and vegetables. Students love to create their own meals, and are more likely to eat unfamiliar foods if they choose them.

General Guidelines for Salad Bars/In-Line

When you've decided on a salad bar, there are several steps to making sure it's a rousing success:

Inform

- Before opening the salad bar, meet with the following groups separately: school administration, faculty, school nurses, students, parents, custodial staff, and nutrition service staff. Discuss the importance of eating fruits and vegetables, along with the health benefits; aims of the program; its unique benefits; and the importance of their support for students' acceptance of the salad bar. Other subjects that should be included are salad bar etiquette, ways to promote the salad bar, barriers that are unique to the school, their roles in monitoring safety and line speed, and the locations of the salad bars.

Train

- Nutrition service staff need to know how to receive, store, and prepare the foods for the salad bar. Discuss how to maintain the salad bar for attractiveness and food safety, monitor the students' choices, take accurate meal counts, replenish food items, help students on the salad bar line, and generally ensure efficient operation of the salad bar.

Advertise

- Advertise the salad bar menu, so students and staff know the day's delight.
- Post the menu in:
 - a visible area in the cafeteria
 - the kitchen
 - homeroom classes
 - teachers' lounges
- Announce the menu over the public address (PA) system and in the school bulletin.

Monitor

- Go back to school administration, faculty, students, and foodservice staff to obtain feedback on the salad bar.
- Track amounts of foods served to determine preferences, and make adjustments as necessary.
- Review the costs and benefits of the salad bar.
- Observe how the salad bar is maintained, and make improvements as needed.
- Check to ensure safety and quality of food.

Salad Bar Facts

Salad Bar Etiquette and Rules of Conduct

Excite the students and adults about the salad bar, and they will come! Before each salad bar is rolled out, advertise and promote it heavily. Some excellent ways to bring attention to each "grand" salad bar opening are to speak at faculty staff and parent/teachers' meetings, make presentations at assemblies, and visit classrooms. Include salad bar etiquette in your presentations.



Creating the Bar

What kinds of salad bars are right for your school? Your choices will be guided by consideration of such factors as the age groups you serve, preparation facilities, food safety, and staffing. “Salad Bar Options,” will help you clarify your ideas and stimulate you to try new ones. What is important is to stretch your imagination and resources to help your children enjoy more fruits and vegetables for better health.

Some possibilities are:

- Self-service vs. assisted service
- Salad bar incorporated into the serving line as a fruit and vegetable choice
- Salad bar as a reimbursable meal option on the serving line
- Free-standing salad bar outside the serving line as an add-on to the meal
- Free-standing salad bar as a separate reimbursable meal serving line with register
- Second or third serving line dedicated to salad bar and other fresh fruit and vegetable options

Salad Bar/In-line Options

Specialty bars can expand your cafeteria and make it a fun and ever-changing place for your customers to dine and increase their consumption of fruits and vegetables. Specialty bars can offer full reimbursable meals or components to them, as well as accompaniments to hot-food-line items such as burgers, tacos, pasta, or chili. Incorporate your own ideas and suggestions into the following bars, or design a whole new salad bar.

Theme Bars

Here are some possibilities for exciting theme bars taken from Fresh-2-U “The Florida Way”,

- Build a Better Burger Salad Bar
- Build a Bowl of Chili Salad Bar
- Greater Tater ‘N’ Salad Bar
- Pile a Pizza Salad Bar
- Plenty O’ Pasta Salad Bar

- Stuff a Submarine Salad Bar
- Top a Taco Salad Bar

Garnishing

Customers eat with their eyes. Food in school cafeterias should be fresh and colorful, be presented attractively, and taste good. This will encourage students to try it.

Garnishing the salad bar will improve the appearance of the food and stimulate the desire for food. Garnishing helps draw attention to foods that students may not normally choose.

Some suggestions for garnishing the salad bar:

- Fresh kale – This is popular because of its deep green color and durability. This can be used to trim the salad bar and fill up empty spaces. It can be washed and reused, and will last about 1 week.
- Leaf lettuce, parsley, red or Napa cabbage – While these items are not as durable as kale, they can be used to trim the salad bar while offering color and eye appeal
- Baskets or arrangements of fresh fruits and vegetables enhance any salad bar.

Temperature Control

The temperature range of 41 °F to 140 °F is called the “danger zone” because dangerous microorganisms can grow quickly in this temperature range, possibly resulting in serious foodborne illnesses.

- The salad bar must maintain temperatures for cold foods below 41 °F and above 140 °F for hot foods . **KEEP COLD FOOD COLD AND HOT FOOD HOT.**
- Potentially hazardous foods, such as fresh-cut melons, must be kept out of the “temperature danger zone.”
- Check and record the temperatures of potentially hazardous foods (log) immediately upon removing from the refrigerator or cooler and before placing on the salad bar.
- It is recommended to check the temperatures every 30 minutes after these foods are placed on the salad bar.
- School Food Authorities should establish policies and procedures on how to handle food that is found to be within the danger zone (40 °F to 140 °F), based on local health inspection requirements.

Proper Handling/ Washing of Produce

PURPOSE: To prevent or reduce risk of food borne illness or injury by contaminated fruits and vegetables.

SCOPE: This procedure applies to Nutrition services employees who prepare or serve food.

KEY WORDS: Fruits, Vegetables, Cross-Contamination, Washing

INSTRUCTIONS:

1. Wash hands using the proper procedure.
2. Wash, rinse, sanitize, and air-dry all food-contact surfaces, equipment, and utensils that will be in contact with produce, such as cutting boards, knives, and sinks.
 - Wash all raw fruits and vegetables thoroughly before combining with other ingredients, including:
 - Unpeeled fresh fruit and vegetables that are served whole or cut into pieces.
3. Fruits and vegetables that are peeled and cut to use in cooking or served ready-to-eat.
4. Wash fresh produce vigorously under cold running water or by using chemicals that comply with the 2001 FDA Food Code. Packaged fruits and vegetables labeled as being previously washed and ready-to-eat are not required to be washed.
5. Remove stickers from any fruit or vegetable with peels that may be consumed.
6. Scrub the surface of firm fruits or vegetables such as apples or potatoes using a clean and sanitized brush designated for this purpose.
7. Remove any damaged or bruised areas.
8. Label, date, and refrigerate fresh-cut items.
9. Serve cut melons within 7 days if held at 40 °F or below. Refer to the Date Marking Ready-to-Eat, Potentially Hazardous Food SOP.
10. Do not serve raw seed sprouts to highly susceptible populations such as pre-school-age children.



Culinary III

COOKING TECHNIQUES

Cooking Techniques: An Overview

All of the techniques discussed in this training guide will be utilized differently in each school. This will all depend on the equipment you have inside your particular café kitchen along with the skills you may have in each of the techniques. This section will give you a quick definition of each technique so that you will have a basic knowledge of how it is used.

BAKING

Roasting and baking are forms of dry-heat cooking that use hot, dry air to cook food. Like other dry-heat cooking methods, roasting and baking brown the surface of the food, which in turn develops complex flavors and aromas.

Both terms describe a method of cooking an item by enveloping it in hot, dry air, generally inside an oven and at temperatures of at least 300°F and often much hotter. A convection oven, which circulates hot air throughout the oven, can enhance the browning reaction.

Cook Uncovered

Roasting and baking both require that the food be cooked **uncovered**, so that it's the hot, dry air that delivers the heat, not steam from the food.

Because it uses indirect heat, baking and roasting cook food fairly evenly since all of the food's surfaces are exposed to the heat to the same extent. This differs from pan-frying, for instance, where the surface that touches the hot pan gets much hotter than the side that faces up.

Roasting Meats

Roasting is a cooking method that is typically reserved for superior cuts of meat like beef tenderloins, rib roasts, loins of pork and so on. Whole poultry is frequently roasted, too, but this can be tricky as breast meat is drier and cooks faster than leg meat.

Roasting at lower temperatures, between 200°F and 300°F, for longer periods of time, can often produce a more tender, juicier roast, but sacrifices the surface browning which is the source of so much flavor. Conversely, high temperature roasting can result in a drier roast.

As a result, it is increasingly common to roast meats using a combination of low and high temperatures, using a low temperature for most of the cooking time, along with a short burst of high temperature, either at the beginning of cooking or at the very end, in order to achieve the desired surface browning.

Baking Fish

Fillets, steaks or even whole fish can be baked. Fish can also be brushed with oil or melted butter before baking. The prepared fish is then baked at around 350°F on an oiled baking sheet. When baking leaner fish, it's a good idea to baste it with oil, butter or some other liquid during the baking, so that it doesn't dry out.

SAUTÉING AND PAN FRYING

Sautéing is a form of dry-heat cooking that uses a very hot pan and a small amount of fat to cook the food very quickly. Like other dry-heat cooking methods, sautéing browns the food's surface as it cooks and develops complex flavors and aromas.

Sautéing Requires a Very Hot Pan

When sautéing, it's important to heat the pan for a minute, then add a small amount of fat and let the fat get hot as well, before adding the food to the pan. This hot fat helps to brown the surface of the food.

Don't Overcrowd the Pan

Another key is to avoid overloading or overcrowding the pan.

In order to achieve the desired browning of the food, the pan must stay hot throughout the cooking process. Too much food in the pan dissipates the heat, causing the food to steam or boil rather than sauté.

Keep the Pan Hot

To illustrate, imagine a pan with green beans cooking in it. The beans at the bottom of the pan, closest to the heat source, are nice and hot, while the ones on top, where they're exposed to air, are cooler. And the longer they sit like this, the greater this disparity in temperature becomes.

So far, so good. However, you're eventually going to want to cook the beans on top, too. And once you flip them, the ones from the top come into contact with the pan's surface and, because they're cooler, they actually lower the temperature of the pan. This leads to the same problem mentioned earlier, where the food ends up steaming rather than sautéing. That's why we try to keep everything moving more or less constantly.

To facilitate this, some sauté pans have sloped sides, which makes it easier to flip those items in the pan without flipping them all over the kitchen. However, it's worth noting that this flipping or tossing technique is only really practical with smaller pieces of food, especially vegetables. For steaks, larger cuts of poultry, fish fillets and so on, we're more likely to employ a technique known as pan-frying rather than sautéing.

Pan-Frying vs. Sautéing

What's pan-frying? It's a lot like sautéing, but with a few key differences. In pan-frying there's no tossing, pan-frying uses slightly more fat and slightly lower temperatures than sautéing. This makes pan-frying a good method for cooking larger pieces of meat that would

not have time to cook through with sautéing, the food isn't in the pan for very long.

Stir Fry

Stir frying is a term used to describe a cooking technique done in a wok (or a deep frying pan) while stirring. There are two techniques, bao and chao, and they only differ in how quickly the foods are heated, the amount of heat used, and the amount of tossing or stirring done to cook the food.

Prior to cooking foods are uniformly cut and placed in individual sections. Foods are added to the wok according to length of time required to cook, then removed and set aside. Once all the foods are cooked they are added back to the wok for a final and quick reheating and seasoning, then served.

Mis En Place (Everything in its place and be prepared), is extremely important to properly stir fry. Preparation before cooking is essential.

You start by seasoning the wok or pan with oil and pre-cooking your meat. Heat up the pan and add oil. Never let the wok leave the flame! Also never let the foot of the wok or pan sit in one place for very long. Keep the pans moving while cooking. The key to a good stir fry is the quick sears as the food slides across the bottom and hottest part of the pan.

After cooking your meat with the proper herbs you will want to remove the meat then wipe pan COMPLETELY CLEAN.

Next, re-season your pan and start with your aromatics (ginger, garlic and/or onion). Then you will add your other veggies, by what will take the most time to cook, carrots would be first (easiest way is to just blanch them and shock them in cold water as part of your mis en place).

When all of your vegetables are in throw in add your meat to reheat. Then depending what you're doing for a sauce typically you just move the food up the sides of the wok and start your sauce in the middle of the pan once you have it heated thicken with a slurry (corn starch and water) and mix in your protein and vegetables. Serve immediately stir frying is about the fresh crispy vegetables if you let it sit it will lose integrity and flavor really quick

Basic Recipes 101

Techniques of Healthier Cooking is important to make sure everyone has the tools to understand and produce recipes, and ESPECIALLY for balanced choice recipes.

You should be able to:

- Identify the difference volume and weight measurements
- Successfully demonstrate proper measurement techniques for both volume and weight measurement
- Scale a recipe up and down
- Describe and apply “scratch cooking” techniques
- Describe a thaw and prep/pull char

Want to learn...

- Production sheets are a must; **no over or under production**; can keep from running out of necessary items and better planning
- Recipes must be scaled and you must follow recipe for the road map for success.
- During food safety we learned...about thawing, prep, thaw, pull charts help us plan
- Measuring and weighing produces consistent results.

RECIPES – Culinary Considerations

- Follow recipes as written - consistency, is the key to success and following recipes creates this.
- Measure all ingredients carefully
- Do not add additional fat, sugar or salt
- Do NOT substitute ingredients
- Watch the portion sizes

Measuring by Weight and Volume

- Remember to always zero the scale
- Weighing is more accurate than measure.
- Volume measurement although less accurate is widely used in most kitchen settings
- Volume measurement is accepted as easier to use, and therefore used more widely

What are?...

- **Nutrient Dense Foods:** High in nutrients; Low in calories; Examples: fruits, vegetables and whole grains
- **Empty Calorie:** Low in nutrients but high in calories; Examples: alcohol, soda, pastries, white sugar, white flour, fried foods, junk foods, high fructose corn syrup.

Fats...

- We all need some fats in our diets. Our bodies are like machines and they need the oil.
- The **RDA** (Recommended Daily Allowance) for total fat intake is 30% or fewer calories from fat over the course of a day or week.
- All fats, regardless of source or type, have approximately the same number of calories by weight.
- **Good Fats:**
 - Liquid at room temperature
 - Monounsaturated fat: Olive oil, canola oil, peanut oil
 - Polyunsaturated fat: Fish (salmon), nuts and seeds, safflower oil, vegetable oil, sunflower oil.
- **Bad Fats:**
 - Solid at room temperature
 - Primarily from animal sources
 - Lard
 - Butter, dairy
 - Poultry fat
 - Bacon
- **Ugly Fats:**
 - Hydrogenated (Trans Fats)
 - Solid at room temperature
 - Margarine (Margarine is worse than BUTTER)
 - Shortenings (Crisco)
 - Traditional Fry Oils
- **Alternatives to Full-fat Dairy:**
 - Replace full-fat dairy products with low or fat free dairy products
 - Evaporated fat-free milk for heavy cream
 - Fat free sour cream
 - Fat free cream cheese
 - Reduced fat cheeses
 - Drained ricotta cheese for cream cheese

Salt and Additional Flavoring:

The daily RDA of salt is 1 teaspoon (2,300 MG)! REMEMBER: food already NATURALLY contains salt.

The children's RDAs for sodium are the following:

- ages 2 to 3, 1,000 mg;
- ages 4 to 8, 1,200 mg;
- and ages 9 to 18, 1,500 mg.
- For certain populations more sensitive to sodium, the RDA is set to only 1,500 mg of sodium per day. Sensitive populations include adults over 50, those diagnosed with hypertension, diabetes or chronic kidney disease.

- Do not add any additional salt to recipes than already specified
- Salt is found in bases also
- **Even 1 extra pinch of salt adds 300 mg of sodium**
- Enhance flavor by using:
 - Herbs and spices
 - Citrus zest, reduced fruit and vegetables juices
 - Reduced vinegars and stocks
 - Aromatics: garlic, leeks, onions, shallots

Vegetarian...

Contains no meat, fish, poultry or shell fish, but may contain dairy or eggs

- There are 3 types of **vegetarians**:
 - Vegan = Plant based diet only
 - Lacto = Plant + Dairy
 - Lacto-ovo = Plants+Dairy+Eggs
- (Plants include: vegetables, fruits, grains, nuts, seeds, legumes)

Recipe standardization

A standardized recipe is one that has been tried, adapted, and retried several times for use by a given nutrition service operation and has been found to produce the same good results and yield every time when the exact procedures are used with the same type of equipment and the same quantity and quality of ingredients.

- Benefits of standardized recipes
 - Consistent food quality
 - Predictable yield
 - Customer satisfaction
 - Consistent nutrient content
 - Food cost control
 - Efficient purchasing procedures
 - Inventory control
 - Labor cost control
 - Increased employee confidence
 - Reduced record keeping

Scratch Recipes

000646 - Turkey Tetrazzini (K-12) : METRO	Attributes
HACCP Process: #3 Complex Food Preparation	
Number of Portions: 100	
Size of Portion: 3/4 cup	

Ingredients	Measures	Instructions
020121 SPAGHETTI,ENRICHED,COOKED,W/O SALT.....	0 1/2 LB,cooked wgt	<ol style="list-style-type: none"> 1. Bring 3 gallons water and salt added to a rolling boil. Add spaghetti, cook until 2/3 done or about 8-8 minutes. Drain and rinse. 2. Add margarine to spaghetti. Set aside. 3. Heat 2 T. oil in a small pan and saute onion, celery and green pepper. Cook until tender. 4. Combine 1 3/4 gallons water, chicken base, cream of chicken soup, sauteed celery, onion, green pepper, sweet red pepper and parsley. 5. Add 14 pounds cooked, diced turkey. 6. Add 2 pounds of shredded cheese and combine with spaghetti and turkey. Save 2 lbs. for topping. 7. Place in 4 - 2" deep steamtable pans. Spray pans to avoid sticking. 8. Top each pan with 1/2 pounds shredded cheese. Spread evenly. 9. Bake at 350°F for 15 minutes or until temperature reaches 165°F.
014429 WATER.....	3 gals	
002047 SALT, TABLE.....	1/3 Tbsp	
110833 MARGARINE.....	1/2 cup	
050384 OIL, VEGETABLE.....	2 Tbsp	
011282 ONIONS,FRESH.....	1 CUP, chopped	
001702 PEPPERS, RED DICED SWEET.....	4 Tbsp	
011333 PEPPERS,SWT, GREEN,RAW.....	1/4 CUP, chopped	
011143 CELERY,FRESH,RAW.....	1 QT, chopped	
014429 WATER.....	1 3/4 gals	
101053 CHICKEN BASE NO MSG.....	2 Tbsp	
002987 CREAM OF CHICKEN SOUP LOW SODIUM.....	50 ozs	
002029 PARSLEY,DRIED.....	1/3 cup	
002975 TURKEY BREAD DICED.....	14 lbs	
000673 CHEESE LOW SODIUM.....	4 lbs	

<p>Creditable amount: 2 oz. eq. Meat / Meat Alternate 1 oz. Sweet Grain</p>		<p>HACCP INSTRUCTIONS:</p> <ol style="list-style-type: none"> 1. Before handling foods wash hands with warm water and soap for a minimum of 20 seconds. 2. CCP: Final internal cooking temperature must reach a minimum of 165° F for a minimum of 15 seconds. 3. CCP: Hot foods held for serving must maintain a minimum internal temperature of 140° F.
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000922 - Tilapia Lemon Garlic (K-12) : METRO	Attributes
HACCP Process: #2 Same Day Service	
Number of Portions: 12	
Size of Portion: EACH	

Ingredients	Measures	Instructions
003231 FISH,TILAPIA,CKD, DRY HEAT.....	12 EACH	<ol style="list-style-type: none"> 1. Mix garlic powder, parsley flakes, paprika, and lemon pepper in a small bowl and set aside. 2. Spray sheet pan with pan release and place 12 fish portions onto the pan. 3. Sprinkle lemon juice and seasoning mix evenly over the top of each fillet. 4. Add 1 cup of water to the pan. Cover with foil and place in the oven. 5. Bake at 350°F for 15 minutes or until temperature reaches 145° F. 6. Hold at 140° F until time of service. <p>* Fish can be prepared from a frozen or thawed state.</p>
002020 GARLIC POWDER.....	1 tsp	
001081 PARSLEY FLAKES.....	2 tsp	
002028 PARSLEY.....	1 tsp	
107888 LEMON PEPPER.....	1 Tbsp	
009153 LEMON JUICE,CANNED/BOTTLED.....	1/2 cup	
014429 WATER.....	1 cup	

<p>HACCP INSTRUCTIONS:</p> <p>CCP: 1) Before handling foods wash hands with warm water and soap for a minimum of 20 seconds.</p> <p>CCP: 2) Final internal cooking temperature must reach a minimum of 145° F for a minimum of 15 seconds.</p> <p>CCP: 3) Hot foods held for serving must maintain a minimum internal temperature of 140° F.</p>	
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<p>EQUIPMENT USAGE:</p> <p>To cook in the combi oven unit using the 1 cup water. Cook fish on combi setting.</p>	
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<p>Creditable amount: 2 oz. eq. Meat / Meat Alternate</p>	
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*Nutrients are based upon 1 Portion Size (EACH)

Calories	133 kcal	Cholesterol	57 mg	Protein	26.14 g	Calcium	16.36 mg	15.31%	Calories from Total Fat
Total Fat	2.70 g	Sodium	139 mg	Vitamin A	13.3 IU	Iron	0.76 mg	5.37%	Calories from Saturated Fat
Saturated Fat	0.94 g	Carbohydrates	1.33 g	Vitamin A	97.2 IU	Water*	100.02 g	"N/A%"	Calories from Trans Fat
Trans Fat	"N/A" g	Dietary Fiber	0.19 g	Vitamin C	2.8 mg	Ash*	1.23 g	4.81%	Calories from Carbohydrates

NOTICE: The data contained within this report and the NUTRITIONAL Menu Planning and Nutritional Analysis software should not be used for and does not provide menu planning for a child with a medical condition or food allergy. Ingredients and menu items are subject to change or substitution without notice. Please consult a medical professional for assistance in planning for or meeting medical conditions.

<p>*N/A* - denotes a nutrient that is either missing or incomplete for an individual ingredient * - denotes combined nutrient totals with either missing or incomplete nutrient data * - denotes optional nutrient values</p>		76.86% Calories from Protein
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000293 - Steamed Cabbage (K-12) : METRO	Attributes
HACCP Process: #2 Same Day Service Number of Portions: 50 Size of Portion: 1/2 cup serving	

Ingredients	Measures	Instructions
P11108 CABBAGE,FRESH,RAW..... D00080 CHICKEN BOULLON,DRY.... R03213 Butter Buds Reconstituted.....	10 1/4 LB, raw wgt 1 Tbsp 1/2 cup	<ol style="list-style-type: none"> Shred or cut cabbage into square pieces. Place in 2" pans Add 1 tsp.chicken base. Cover with plastic. Place in steamer. Steam cabbage for 10-15 minutes, or until cabbage is bright green and tender. Pour 1/2 cup of reconstituted butter buds over cabbage. Hold at 140° F until time of service. <p>Reconstituted Butter Buds</p> <p>Please use the following instructions to reconstitute butter buds.</p> <ol style="list-style-type: none"> Mix one 4 oz. package of butter buds with 1 quart of water. Stir until butter buds and water are mixed well. Use butter buds in stated amount in the recipe once reconstituted. Refrigerate leftover/unused butter buds and use within 3 days. <p>HACCP INSTRUCTIONS:</p> <ol style="list-style-type: none"> Before handling foods wash hands with warm water and soap for a minimum of 20 seconds. CCP: Final internal cooking temperature must reach a minimum of 140°F for a minimum of 15 seconds. CCP: Hot foods held for serving must maintain a minimum internal temperature of 140° F. <p>Creditable amount: 1/2 cup other/additional vegetable</p>

*Nutrients are based upon 1 Portion Size (1/2 cup serving)

Calories	27 kcal	Cholesterol	0 mg	Protein	0.98 g	Calcium	39.18 mg	8.25%	Calories from Total Fat
Total Fat	0.25 g	Sodium	133 mg	Vitamin A	9.9 RE	Iron	0.35 mg	5.89%	Calories from Saturated Fat
Saturated Fat	0.15 g	Carbohydrates	6.13 g	Vitamin A	73.2 IU	Water*	68.86 g	"0.13%"	Calories from Trans Fat

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Trans Fat*	"0.00" g	Dietary Fiber	1.92 g	Vitamin C	27.3 mg	Ash*	0.79 g	89.87%	Calories from Carbohydrates
								14.42%	Calories from Protein

*N/A - denotes a nutrient that is either missing or incomplete for an individual ingredient
 * - denotes combined nutrient totals with either missing or incomplete nutrient data
 * - denotes optional nutrient values

001016 - Broccoli, Steamed (K-12) : Metro	Attributes
HACCP Process: #2 Same Day Service Number of Portions: 50 Size of Portion: 1/2 cup serving Alternate Recipe Name: BROCCOLI	

Ingredients	Measures	Instructions
P11084 BROCCOLI,FRZ,SPEARS,UNPREPARED... D00085 BASE,CHICKEN,DRY..... R03213 Butter Buds Reconstituted..... P14428 WATER.....	10 1/2 lbs 2 tsp 1 PACKAGE 1 qt	<ol style="list-style-type: none"> Place broccoli in 2 - 2" steamable pans and sprinkle 1 tsp. chicken base on top of each pan of broccoli. Pour 2 cup of reconstituted butter buds over each pan of broccoli. Mix well. Steam for 5 min. Temperature should reach 140°F. Hold at 140°F until time of service. <p>Reconstituted Butter Buds</p> <p>Please use the following instructions to reconstitute butter buds.</p> <ol style="list-style-type: none"> Mix one 4 oz. package of butter buds with 1 quart of water. Stir until butter buds and water are mixed well. Use butter buds in stated amount in the recipe once reconstituted. Refrigerate leftover/unused butter buds and use within 3 days. <p>HACCP INSTRUCTIONS:</p> <ol style="list-style-type: none"> Before handling foods wash hands with warm water and soap for a minimum of 20 seconds. CCP: Final internal cooking temperature must reach a minimum of 140° F for a minimum of 15 seconds. CCP: Hot foods held for serving must maintain a minimum internal temperature of 140° F. <p>Creditable amount: 1/2 cup Dark Green Vegetable</p>

*Nutrients are based upon 1 Portion Size (1/2 cup serving)

Calories	36 kcal	Cholesterol	0 mg	Protein	2.92 g	Calcium	48.23 mg	12.18%	Calories from Total Fat
Total Fat	0.49 g	Sodium	151 mg	Vitamin A	135.0 RE	Iron	0.68 mg	4.34%	Calories from Saturated Fat

NOTICE: The data contained within this report, and the **NUTRINFO**® Menu Planning and Nutritional Analysis software should not be used for and does not provide menu planning for a child with a medical condition or food allergy. Ingredients and menu items are subject to change or substitution without notice. Please consult a medical professional for assistance in planning for or treating medical conditions.

Saturated Fat	0.17 g	Carbohydrates	6.86 g	Vitamin A	1074.7 IU	Water*	104.45 g	"0.10%"	Calories from Trans Fat
Trans Fat*	"0.00" g	Dietary Fiber	2.89 g	Vitamin C	64.5 mg	Ash*	0.83 g	76.39%	Calories from Carbohydrates
								32.50%	Calories from Protein

*N/A - denotes a nutrient that is either missing or incomplete for an individual ingredient
 * - denotes combined nutrient totals with either missing or incomplete nutrient data
 * - denotes optional nutrient values

Marketing Ideas for MNPS Healthier Cafes

There are many good reasons to make fresh fruits and vegetables, beans, whole grains, low-fat dairy, and lean meats more appealing and more accessible to students participating in school food programs (your customers).

The health of our nation's children is at stake. Diseases such as type 2 diabetes, heart disease, and high blood pressure, which were once seen only in adults, are now affecting children with alarming frequency. In fact, the Center for Disease Control (CDC) reports that today's youth can expect a shorter life than their parents.

To help students make better food choices that will positively influence their long-term health, schools can and should ramp up their efforts to market healthy choices using — promotion, packaging, and presentation. As institutions of learning, schools are a natural place to teach and reinforce healthy habits. Wellness policies have mandated whole-school makeovers, and coordinated school health programs provide support for implementation. Marketing the healthy foods served in the cafeteria makes you and your staff key players in those efforts.

Cafeteria Managers:

Here are some tips for using advertising and marketing effectively:

- Here are some tips for using advertising and marketing effectively:
- Good cafeteria signage can make a cafeteria feel more like a café. Make sure it's visible and easy to read.
- Fast facts and nutritional information posted where customers will see it as they go through the line might encourage them to make a healthier choice.
- Coupons offered to new students or for special events may bring customers to your lunchroom.
- Newsletters and school websites are natural places to raise awareness of nutrition topics, to announce promotions, or to advertise services like parental controls.
- Morning announcements are the original advertising method for schools — get students' attention by announcing contests, special promotions, and extra services like catering, if appropriate.
- TV monitors are increasingly common in schools. Use them for promoting your school lunch.
- Remember there are many other things competing for your customers' attention in a school setting. Repeating the message as often as possible using different ways to communicate.

Parents and Families:

- Use newsletters, websites, menus, and other school communication channels to

- reach parents in a variety of ways.
- Attend parent organization meetings to discuss nutrition, payment systems, parental controls, accommodations for students requiring special diets, and other topics of interest to parents.
- Invite parents to lunch and show them what choices their children can make in the cafeteria.
- Promote new menu items by providing parents with recipes they can make at home.
- Ask parents to help with marketing efforts and special promotions.

Teachers:

- Involve teachers and their business, marketing, art, writing, and food and consumer science students in your marketing strategies.
- Work with teachers to connect classroom activities to the lunchroom, such as giving cooking demonstrations or reading books about fruits and vegetables.
- Attend staff meetings to help teachers understand your program and how they can help make it successful.
- Help teachers and administrators see the connection between nutrition and academic performance. Many schools and districts already emphasize the importance of eating breakfast on testing days. Why should regular school days be any different?
- Encourage teachers to participate in a fruit and vegetable challenge by keeping a running tally of the fruits and vegetables their students eat at lunch or for snacks.
- Connecting classroom activities to healthy eating makes a strong impression on kids of all ages.

Community:

- Invite chefs and culinary students to prepare sample recipes, demonstrate cooking techniques, or teach hygiene and food safety as related to food preparation. Reward older students by allowing them to shadow a chef for a day.
- Host a “commodity cook-off” with local chefs and culinary students and allow your school’s student population to be the judges.
- Ask an artist or organization such as Hands On Nashville to work with students to paint a nutrition or food-themed mural in the cafeteria.
- Invite student musicians to health fairs and special promotions to make them more festive, especially when an international theme is featured.
- Contact Nashville’s Metro Public Health Department <http://www.nashville.gov/Health-Department.aspx> to see what resources they offer, and what topics their staff members can present to students.
- Host a dietetic intern student to assist with school nutrition marketing programs.

Area Growers:

- Feature local, in season items in promotions. Let students know where the food was grown.
- Invite growers to tell students about growing food and bring samples from their crops.
- Encourage teachers to talk about local growers

Healthier Cafes

Marketing Programs

SUGGESTED PROMOTION ACTIVITIES

September

Washington Apple Week
 Patriot Day/Remembering September 11th
 Lucky Tray Contest -- Monthly
 Birthday Recognition -- Daily or Monthly
 Harvest of the Month -- Choose Day

October

Got Milk Promotion -- Entire Month
 National School Lunch Week
 National Food Day
 Fall Festival Lunch
 Lucky Tray Contest -- Monthly
 Birthday Recognition -- Daily or Monthly
 Harvest of the -- Choose Day

November

American Education Week
 National Book Week
 Harvest Festival Lunch
 Mickey Mouse's Birthday
 Birthday Recognition-- Daily or Monthly
 Harvest of the Month -- Choose Day

December

Winter Festival Lunch
 Kwanzaa
 Birthday Recognition -- Daily or Monthly
 Harvest of the -- Choose Day -- Sweet Potato

January

Lucky Tray Contest -- Monthly
 Birthday Recognition -- Daily or Monthly
 Harvest of the Month -- Choose Day

February

Heart Healthy Week
 Valentine's Celebration Lunch
 Lucky Tray Contest -- Monthly
 Birthday Recognition -- Daily or Monthly
 Harvest of the Month -- Choose Day

March

National Nutrition Month -- Entire Month
 Dr. Seuss' Birthday
 National School Breakfast Week
 St. Patrick's Day
 Lucky Tray Contest -- Monthly
 Birthday Recognition -- Daily or Monthly
 Harvest of the Day -- Choose Day

April

Lucky Tray Contest -- Monthly
 Birthday Recognition -- Daily or Monthly
 Harvest of the Day -- Choose Day

Miscellaneous

Customer Appreciation Day
 Olympic Games Week
 Titan Day
 International Week
 Student Planned Menu
 Breakfast in the Classroom
 Health Fair
 Harvest of the Month -- Choose the day

Nutrition Education Policy IM4.170



The Metropolitan Nashville Public School System (MNPS) recognizes the value of students receiving proper nutrition and its impact on students' academic achievement as well as physical, mental, emotional and social well being. MNPS is committed to providing healthy school meals that meet the Dietary Guidelines for all Americans through nutrition education and physical education practices, outstanding staff and curriculum standards, and productive opportunities for parent/community involvement.

Healthy School Meal Environment

- The MNPS Nutrition Services will provide breakfast, lunch and after school snacks/ meals to students every school day.
- The MNPS Nutrition Services will have at a minimum, a state-conducted review every 3-5 years as required by the Tennessee Department of Education, School Nutrition Program, and United States Department of Agriculture (USDA).
- The Metro-Nashville Public Health Department will conduct two Food Safety Health Inspections at each school, each school year to ensure serving safe food practices during all meal services

Revision History
September 2012
August 2011

Review
Annually

Date Last Reviewed
September 2012

Free and Reduced-Priced Meals (Pre-K-12)

- Prevent the overt identification of, students who are eligible for the free and reduced-price school meal.

School Meals (Pre-K-12)

- Meals served through the National School Lunch, School Breakfast and After School Snack Programs will:
 - Be appealing and attractive to students.
 - Be served in clean and pleasant settings.
 - Meet minimum, nutrition requirements established by local, state, and federal statutes and regulations.
 - Offer a variety of fruits and vegetables.
 - Provide/make potable water available to all students.
 - Serve only 1 % low-fat and fat-free milk and nutritionally-equivalent non-dairy alternatives (to be defined by USDA).

1

Visit <http://policy.mnps.org> for a complete listing of MNPS Policies and Procedures.

Nutrition Education and MNPS Nutrition Services IM 4.170

- o Ensure that half grains offered to students are whole grain-rich.

The MNPS Nutrition Services will follow the Federal Competitive Foods Policy and the State Minimum Nutritional Standards. The Minimum Nutritional Standards for Individual Food Items Sold or Offered for Sale to Pupils (i.e., foods sold outside of reimbursable school meals, such as through vending machines, a la carte [snack] lines, fundraisers [on school premises], school stores) is effective for grades Pre-Kindergarten through Eight (Pre-K-8). These state regulations are effective 45 minutes before school starts and 30 minutes after school ends. Beginning August 1, 2012, MNPS high schools shall initiate implementation of these regulations. All schools shall be 100% compliant by August 1, 2014.

Potable Water

- Potable water must be made available free of charge to all students in the place where lunch and afterschool snacks are served during meal service.
- Water must be available without restriction in the location where meals are served.
 - o Water fountains, water pitchers and cups on lunch tables, or a faucet that allows students to fill their bottles or cups fulfill this requirement.

Beverages Allowed

- Fluid milk that is flavored or unflavored; is 1% reduced low fat, or skim/non-fat; and meets state and local standards for pasteurized fluid milk and/or USDA approved alternative dairy beverages;
- Beverages that are 100% fruit and vegetable juices;
- Water that is non-flavored, non-sweetened, and non-carbonated; and
- Low calorie beverages (includes flavored, sweetened, and non-caffeinated water) that are flavored, non-carbonated beverages, containing no additional caloric sweeteners and no more than 15 calories per serving.

Foods Allowed

- No more than 35% of its calories from total fat (excluding nuts, seeds, and nut butters).
- No more than 10% of its calories from saturated fat.
- No more than 35% of its weight from added sugars.
- No more than 230 mg of sodium per serving for chips, cereals, crackers, French fries, baked goods, and other snack items.
- No more than 480 mg of sodium per serving for pastas, meats, and soups.
- No more than 600 mg of sodium for pizza, sandwiches, and main dishes.
- Fruits and Non-Fried Vegetables that can be sold individually include the following:
 - o Fresh, canned or dried fruits and vegetables found in the Food Buying Guide for Child Nutrition Programs.
- Examples of products that cannot be sold as a fruit or vegetable include the following:

Nutrition Education and MNPS Nutrition Services
■ 4.170

- o Snack-type foods made from vegetables or fruits, such as potato chips and banana chips.
- o Pickle relish, jam and jelly.
- o Tomato catsup and chili sauce.

Foods Sold

- **Foods of Minimal Nutritional Value (FMNV), as defined by the USDA (Appendix B of 7 CFR Part 210), shall be eliminated. These include:**
 - **Soda Water**—A class of beverages made by absorbing carbon dioxide in potable water. No product shall be excluded from this definition because it contains artificial sweeteners or discrete nutrients added to the food such as vitamins, minerals and protein.
 - **Water Ices**—As defined by 21 CFR 135.160 Food and Drug Administration Regulations except that water ices which contain fruit or fruit juices are not included in this definition.
 - **Chewing Gum**
 - **Certain Candies**—Processed foods made predominantly from sweeteners or artificial sweeteners with a variety of minor ingredients which characterize the following types:
 - o Hard Candy
 - o Jellies and Gums
 - o Marshmallow Candies
 - o Fondant—A product consisting of microscopic-sized sugar crystals which are separated by thin film of sugar and/or invert sugar in solution such as candy corn, soft mints.
 - o Licorice
 - o Spun Candy—A product that is made from sugar that has been boiled at high temperature and spun at a high speed in a special machine.
 - o Candy Coated Popcorn
- **Snack/Vending items will contain no more than 200 calories per portion, as well as zero (0) trans fat.**

Portion Sizes

- **Fruits and non-fried vegetables are exempt from portion-size limits**
- **Limit on portion sizes of foods and beverages sold individually are the following:**
 - o One and one-quarter ounces for chips, crackers, popcorn, cereal, trail mix, nuts, seeds, dried fruit, or jerky.
 - o One ounce for cookies.
 - o Two ounces for cereal bars, granola bars, pastries, muffins, doughnuts, bagels, and other bakery items.
 - o Four fluid ounces for frozen desserts, including, but not limited to, low-fat or fat-free ice cream.
 - o One ounce pure cheese that is low-fat or fat free containing 3.5 grams or less of fat.

**Nutrition Education and MNPS Nutrition Services
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- o Eight ounces for non-frozen yogurt.
- o Eight fluid ounces for beverages, excluding non-flavored water and milk.
- o The portion size of a la carte entrees and side dishes, including potatoes, shall not be greater than the size of comparable portions offered as part of school meals.
- o Individual food items that are part of a day's reimbursable school lunch program may be sold on that day as an a la carte item. All other school a la carte items are not to exceed the United States Department of Agriculture's standards for foods sold individually.

Breakfast (Pre-K-12)

- Operate the School Breakfast Program.
- Encourage all children to have breakfast, either at home or at school.
- Arrange bus schedules, to the greatest extent possible, in order to utilize methods of serving school breakfasts that encourage participation, including serving breakfast in the classroom, "grab-and-go" breakfast, or breakfast during morning break or recess.
- Notify parents and students of the availability of the School Breakfast Program (for schools that serve breakfast).
- Encourage parents, through a newsletter article, to provide a healthy breakfast for their children or purchase one at the school.

School Responsibilities

- Ensure nutrition education at each grade level using the USDA Choose My Plate nutrition education program. Go to www.choosemyplate.gov to download nutrition education curriculum and supporting materials.
- Ensure that candy and other sweetened foods are not used to reward good behavior.
- Ensure that food items are not withheld as a method of discipline.
- Use community resources/speakers to promote nutrition education.
- Provide opportunities for family involvement in nutrition education programs.
- Provide through cafeteria personnel, nutrition education visuals and present the cafeteria serving area as a learning lab focusing daily on positive nutrition education messages.

Implementation and Evaluation of Plan

- All principals and cafeteria managers will be provided with a copy of the Nutrition Education and MNPS Nutrition Services Policy.
- Field managers and cafeteria managers will be responsible for implementation of the Nutrition Education and MNPS Nutrition Services Policy.
- Each school shall develop a "Healthy School Team"(HST) to monitor the Nutrition Education and MNPS Nutrition Services Policy.
- HSTs will monitor the implementation of the vending guidelines within their schools. They will perform periodic audits (at least one per semester) to ensure

Nutrition Education and MNPS Nutrition Services M 4.170

that the guidelines are being followed. Any discrepancies will be reported to their principal and cafeteria manager.

- CSH will work with the Alignment Nashville HEAL Committee to provide opportunities for training HST Leaders on monitoring the content of the vending, as well as ways to educate and market the vending changes.
- At least 50% of all items stocked in each vending machine shall comply with this policy by August 1, 2013. By August 1, 2014, all vending machines shall be 100% compliant with this policy.

Distribution of Nutritional Materials

- Metropolitan Nashville Public School System is committed to promoting nutrition education to students as well as parents and the community. Nutritional materials will be made available to the public through:
 - Pamphlets showing that the breakfast and lunch menus adhere to the choosemyplate.gov nutritional requirements.
 - Metropolitan Nashville Public School's website at www.mnps.org
 - Parent University
 - The Mayor's back to school fair
 - Monthly menus and nutrition tips provided through the Communications Department.

References/Authority

"Minimal Nutritional Standards for Items Sold or Offered for Sale During the School Day in Grades K-8, Rule" Tennessee State Board of Education, April, 2005, found : http://www.tennessee.gov/sbel/Apr05/VL_Minimal_Nutritional_Standards_Rule.

Competitive Foods Compliance List at <http://snp.state.tn.us>

Community Resources

ORGANIZATION: American Culinary Foundation

Contact: Kevin Dorr, CEC

Phone: 615-428-5103 **EMAIL:** kevindorr@iammorrison.com

Trainer, speaker, organizer, video resources, menu and recipe development, etc

Capacity: wherever needed

Fee: perhaps basic food costs

Organization: Community Food Advocates

Contact: Megan Morton

Phone: 615-385-2286

Email: info@communityfoodadvocates.org

Website: www.communityfoodadvocates.org

Description: CFA is a Nashville based nonprofit organization providing support and resources for a healthy, just and sustainable food system.

Organization: Casa Azafron

Contact: Laura Delgado

Phone: 615-320-5152

Email: info@conamericas.com

Website: www.conexionamericas.org/

Description: We believe successful efforts to promote the integration of immigrant families into their new community recognize that integration is a multi-dimensional process. Therefore, Conexión Américas focuses on advocating for, and supporting the integration of, Latino families in three inter-dependent areas of human development: Social Integration, Economic Integration, Civic Integration

Organization: Extension Office – Davidson County Tennessee Nutrition And Consumer Education Program (TNCEP)

Contact: Sandra R. Bush

Phone: 615-862-5995

Email: sbush@utk.edu

Website: utextension.tennessee.edu/davidson

Description: Educational programs focus on strengthening individuals, families and communities by addressing critical issues and needs, such as teaching parenting skills, improving nutrition and health, managing family finances, addressing child care needs, and others.

Organization: The Family and Consumer Sciences (FCS) program

Website: www.nashville.gov/Agricultural-Extension-Service/Family-and-Consumer-Sciences.aspx

Description: FCS is a Metro Nashville program which addresses important issues facing Tennesseans as they cope with social, economic and technological changes. Many of these changes threaten the health, safety and well-being of individuals, families and communities. The subject matter of Family and Consumer Sciences such as financial management, nutrition, sustainable housing and environmental health issues have moved to the forefront of community and legislative agendas, addressing these issues helps develop strong families which ultimately leads to strong communities.

Organization: Metro Nashville Health Department – Food Protections Services

Website: www.nashville.gov/Health-Department/Environmental-Health/Food-Protection-Services.aspx

Phone: 615-340-5620

Description: provides protection from the threat of foodborne illnesses by conducting inspections among Davidson County's food service establishments. Many great resources are available on the website.

Organization: Metro Action Commission

Contact: Marvin Cox

Phone: (615) 862-8860

Email: marvin.cox@nashville.gov

Website: www.nashville.gov/Metro-Action-Commission.aspx

Description: The Summer Food Service Program provides free Breakfast and Lunch meals to approved sites such as community centers, youth summer camps and other programs that are located areas populated by families with low-incomes. This program is designed to ensure that children who normally receive meals through the Free and Reduced Lunch Program during the school year receive nutritious meals during the summer.

Organization: Nashville School Garden Coalition

Email: nashvilleschoolgardens.com/nsgc/

Description: The Nashville School Garden Coalition is a group of teachers, parents, community volunteers, and school garden advocates who work together to support school gardens in Nashville. We envision a city where students, families and the community are healthier, academically successful, and environmentally sound through involvement in school gardens. We work collaboratively to achieve this vision by advocating for and supporting the school garden movement by sharing best practices, organizing and empowering leaders, developing policies and procedures, providing a technical support network, and integrating gardening into curriculum to support academic achievement.

ORGANIZATION: Second Harvest Food Bank of Middle Tennessee

Contact: David Cloniger

Address: 331 Great Circle Road

City: Nashville, TN 37228

Phone: 615-430-3002

Email: david.cloniger@secondharvestmidtn.org

Description: Second Harvest Food Bank works to secure food resources for our 400+ partner agencies in our 46 county service area. For the past two years we have been working in the Agency and Program Services Department, both in the acquisition and distribution of food to hungry people. Currently, it is a top priority to obtain more produce and other healthy food to offer to partner agencies for distribution to needy individuals and families. Through the food banking network, Second Harvest has access to fresh produce at very low costs and I hope to be able to utilize this resource to help with the Farm to School program. Also, "Together We Grow" which is our bucket gardening program that teaches kids about growing plants and eating healthy.

Capacity: We may be limited to working with schools that have at least a 51% free or reduced lunch student population

Fee: There would be a charge for the purchasing of produce through Second Harvest.

Organization: Alignment Nashville School Nutrition Committee

Website: www.alignmentnashville.org/committees/school-nutrition-committee

Email: glen@alignmentnashville.org

Alignment Nashville is a Nashville-based non-profit facilitating the School Nutrition Committee. The vision of this committee is to assist MNPS in creating an innovative nutrition program that enables student achievement by empowering children to make healthy choices, increasing school meal participation and inviting parents to eating in the school cafés.

Glossary of Terms

Age/Grade Groups

Schools must plan menus using the age/grade groups K-5, 6-8, and 9-12. These groups reflect predominant school grade configurations and are consistent with the IOM's Dietary Reference Intake (DRI) groupings. Specific calorie levels are required for a meal to be considered a healthy school meal depending on the age/grade groups. If an unusual grade configuration in a school prevents the use of these established age/grade groups, students in grades K-5 and grades 6-8 may be offered the same food quantities at lunch provided that the calorie and sodium standards for each age/grade group are met. No customization of the established age/grade groups is allowed. These calorie and sodium requirements are based on weekly averages.

As Purchased (AP) and Edible Portion (EP)

The As Purchased (AP) weight is the amount purchased. The Edible Portion (EP) weight is the amount of product that can be consumed. The As purchased (AP) weight is greater than the Edible Portion (EP) weight. The quantity of the component must be the edible portion as served as identified in the Food Buying Guide (FBG).

Blanch

To dip a food into boiling water for a very short time and then to chill very quickly to briefly and partially cook it.

Culinary

Relating to the kitchen or cooking. An example of use is to describe food preparation skills as culinary skills.

Culinary Technique

A step-by-step food preparation method. The culinary techniques described in this lesson include preparing fresh fruits and baking fruits.

Empty Calorie

Low in nutrients but high in calories; Examples: alcohol, soda, pastries, white sugar, white flour, fried foods, junk foods, high fructose corn syrup

Ethylene gas

A naturally occurring gas produced when some fruits and vegetables begin to ripen.

Food Component

Food component means one of the five food groups which comprise reimbursable meals at lunch. The five food components to be offered to all students at lunch are: Meat/ Meat Alternate (M/MA), Grains (G), Vegetables (V), Fruits (F), and Fluid Milk (Milk).

Just-In-Time Preparation

This term is used throughout the lessons to mean preparing a menu item in small enough amounts that it will be at its peak of quality when placed on the service line. This preparation schedule avoids holding any food for a long time. Other terms that mean the same thing are batch cooking and cooking to the line.

Mise en Place (meez-un-plahss)

A French term used by chefs and other food professionals to describe all the different things that have to be done to get ready up to the point of cooking. Translated, it means put in place. It includes all the get ready steps in food preparation such as using the recipe to assemble the equipment needed and getting ingredients ready to combine.

Nutrient Dense Foods

High in nutrients; Low in calories; Examples: fruits, vegetables and whole grains

Nutrients

The chemical substances found in food that nourish the body. There are six classes of nutrients: proteins, carbohydrates, fats, water, minerals, and vitamins.

Production and Menu Records

Schools or SFAs, as applicable, must keep production and menu records for the meals they produce. These records must show how the meals offered contribute to the required food components and food quantities for each age/grade group every day.

RDA

Recommended Daily Allowance

Reduced Sodium

Less than 400 MG per serving

Roasting

Foods are cooked in the oven, using dry heat. When vegetables are roasted, they are generally sweeter and more tender.

School Week

School week means the period of time used to determine compliance with the meal requirements in § 210.10. The period shall be a normal school week of five consecutive days; however, to accommodate shortened weeks resulting from holidays and other scheduling needs, the period shall be a minimum of three consecutive days and a maximum of seven consecutive days. Weeks in which school lunches are offered less than three times shall be combined with either the previous or the coming week. If a school regularly operates on a 3, 4, 6, or 7-day week, it must use the adjusted meal pattern guidance provided by USDA.”

Seasonal Produce

Fruits and vegetables that are at their peak of production at a particular time of the year. Typically this produce is more flavorful and less expensive. Seasonality of produce

will depend on region.

Steaming

A moist-heat cooking technique in which heat is transferred from steam to the food being cooked by direct contact.

Stir-Frying

A dry-heat cooking technique similar to sautéing. Foods are cooked over very high heat using little fat while stirring briskly and constantly

Sugar Free

no ADDED sugar. All foods have some natural sugars. This means that no additional sugars have been added

Unit Pricing

Schools must price each meal as a unit. If Offer Verses Serve (OVS) is practiced, a lunch meal has the same cost if a student selects three, four, or five components. As of July 1, 2012, schools must identify, near or at the beginning of the serving line(s), the food items that constitute the unit priced reimbursable school meal(s). The price of a reimbursable lunch does not change if the student does not take a food component or requests smaller portions.

Vegetarian

contains no meat, fish, poultry or shell fish, but may contain dairy or eggs

Water-Soluble Vitamins

Vitamins that can dissolve in water and thus can be lost during food preparation. They include the B vitamins and vitamin C.

Braise

“A moist-heat cooking method used for less tender, large cuts of meat”

Dry Heat

Cooking without adding any liquid. Examples are roasting, broiling, pan-broiling, griddle broiling, and sautéing.

Just-In-Time Preparation

This term is used throughout the lessons to mean preparing a menu item in small enough quantities so that it will be at its peak of quality when placed on the serving line. This preparation schedule avoids holding any food for a long time. Other terms that mean the same thing are batch cooking and cooking to the line.

Marinate

To soak a food in a seasoned liquid to flavor and tenderize the food. The liquid is called a marinade.

Meat

The edible portion of mammals, the main ones in the United States being cattle (beef), swine (pork), and sheep (mutton and lamb).

Moist Heat

Cooking with added moisture. Examples are braising, stewing, and poaching.

Mirepoix (miro-poy)

“A seasoning mixture of two parts onion, one part celery, and one part carrots. Herbs and spices may be added. This coarse chopped vegetable mixture is added to meats that are roasted or braised for flavor. The juices are drained off when the meat is done and can then be served with the meat or used to make sauces and gravy. The juices should be chilled so that the fat can be removed.”

Potentially Hazardous Food

“Food that can support the growth of certain toxic microorganisms. This group includes meats, poultry, eggs, fish, and some plant foods. These foods should be kept cold (below 41 °F) or hot (above 135 °F). Between 41 °F–135 °F is the Danger Zone where microorganisms can grow quickly.”

Poultry

Domestic birds kept for eggs and meat. The poultry products used most often in school meals are chicken and turkey

Roast

A dry-heat technique of cooking meat in an oven with no added moisture. Baking is the same technique when applied to meat and poultry

Sauté

To cook food quickly using small amount of fat, stirring to brown it evenly.

Sear

To brown meat on all sides before braising or stewing.

Simmer

To cook on low heat with added moisture such as stock or water (braising or stewing).

Acknowledgements

Baptist Healing Trust

Healthways Foundation

National Food Service Management Institute (NFSMI)

The University of Mississippi

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Director of Nutrition Services

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MNPS Nutrition Services

Megan Morton

Executive Director

Community Food Advocates

Deborah Walker

Coordinator of Nutrition Education and Training

MNPS Nutrition Services

Kevin Dorr

American Culinary Foundation

Alignment Nashville Nutrition Committee

Managers, Staff and Culinary Arts Students of Pilot MNPS Schools

List of Pilot Schools

Baxter MS

Cole Elementary

Fall Hamilton Elementary

Glengarry Elementary

Glenview Elementary

Hunters Lane

Litton

McGavock High

Overton High

Park Avenue Elementary

Rose Park Middle

Rosebank

Shayne Elementary

Stratford High

Wright Middle

ALIGNMENT
NASHVILLE
for successful, healthy children

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