

# EXPLORE



## Texas 4-H Foods & Nutrition

*Exploring the Food Challenge*



[texas4-h.tamu.edu](http://texas4-h.tamu.edu)

The members of Texas A&M AgriLife will provide equal opportunities in programs and activities, education, and employment to all persons regardless of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation or gender identity and will strive to achieve full and equal employment opportunity throughout Texas A&M AgriLife.



# EXPLORE

## TEXAS 4-H FOODS & NUTRITION



### Description

The Texas 4-H Explore series allows 4-H volunteers, educators, members, and youth who may be interested in learning more about 4-H to try some fun and hands-on learning experiences in a particular project or activity area. Each guide features information about important aspects of the 4-H program, and its goal of teaching young people life skills through hands-on experiences. Additionally, each guide contains at least six learning experiences, which can be used as a project guide, or as activities for six different 4-H

meetings.

### Purpose

Texas 4-H is designed to develop the youth of our state into productive adult citizens. The 4-H Program uses a non-formal educational process of engaging youth in a "learning by doing" process. This includes hands-on opportunities, participation in workshops and clinics conducted by volunteer leaders or professionals, as well as competitive experiences which allow 4-H members to demonstrate the knowledge they have gained. Through this entire process, the youth are learning key life skills such as working with others, teamwork, cooperation, and goal setting. Through all experiences, youth get to interact with adult volunteers and county Extension agents.

### What is 4-H?

4-H members across the nation are responding to challenges every day in their communities and their world.

As the youth development program of the Cooperative Extension System of land-grant universities, 4-H is the nation's largest youth development organization, empowering six million young people throughout the United States. Cooperative Extension of 1862 and 1890 land-grant universities provide leadership to engage young people in 4-H in all 3,007 counties of the United States. The impact of the Cooperative Extension partnership is profound, bringing together National Institute of Food and Agriculture of USDA, land grant universities and county government to resource learning opportunities for youth.

Through America's 110 land-grant universities and its Cooperative Extension System, 4-H reaches every corner of our nation—from urban

neighborhoods to suburban schoolyards to rural farming communities. With a network of more than 6 million youth, 600,000 volunteers, 3,500 professionals, and more than 25 million alumni, 4-H helps shape youth to move our country and the world forward in ways that no other youth organization can.

### Texas 4-H

Texas 4-H is like a club for kids and teens ages 5-18, and it's BIG! It's the largest youth development program in Texas with more than 550,000 youth involved each year. No matter where you live or what you like to do, Texas 4-H has something that lets you be a better you!

You may think 4-H is only for your friends with animals, but it's so much more! You can do activities like shooting sports, food science, healthy living, robotics, fashion, and photography.

Look for 4-H clubs at your school, an after-school program, a community center, or even on a military base or through the reserves for military families.

Texas 4-H is part of the Texas A&M AgriLife Extension Service and the Texas A&M System. Founded in 1908, 4-H is the largest youth development program in Texas, reaching more than 550,000 youth each year.

### The 4-H Motto and Pledge

"To Make the Best Better!"

I pledge: My HEAD to clearer thinking, My HEART to greater loyalty, My HANDS to larger service and My HEALTH to better living, For my Club, my Community, my Country, and my world.

### Participating in 4-H

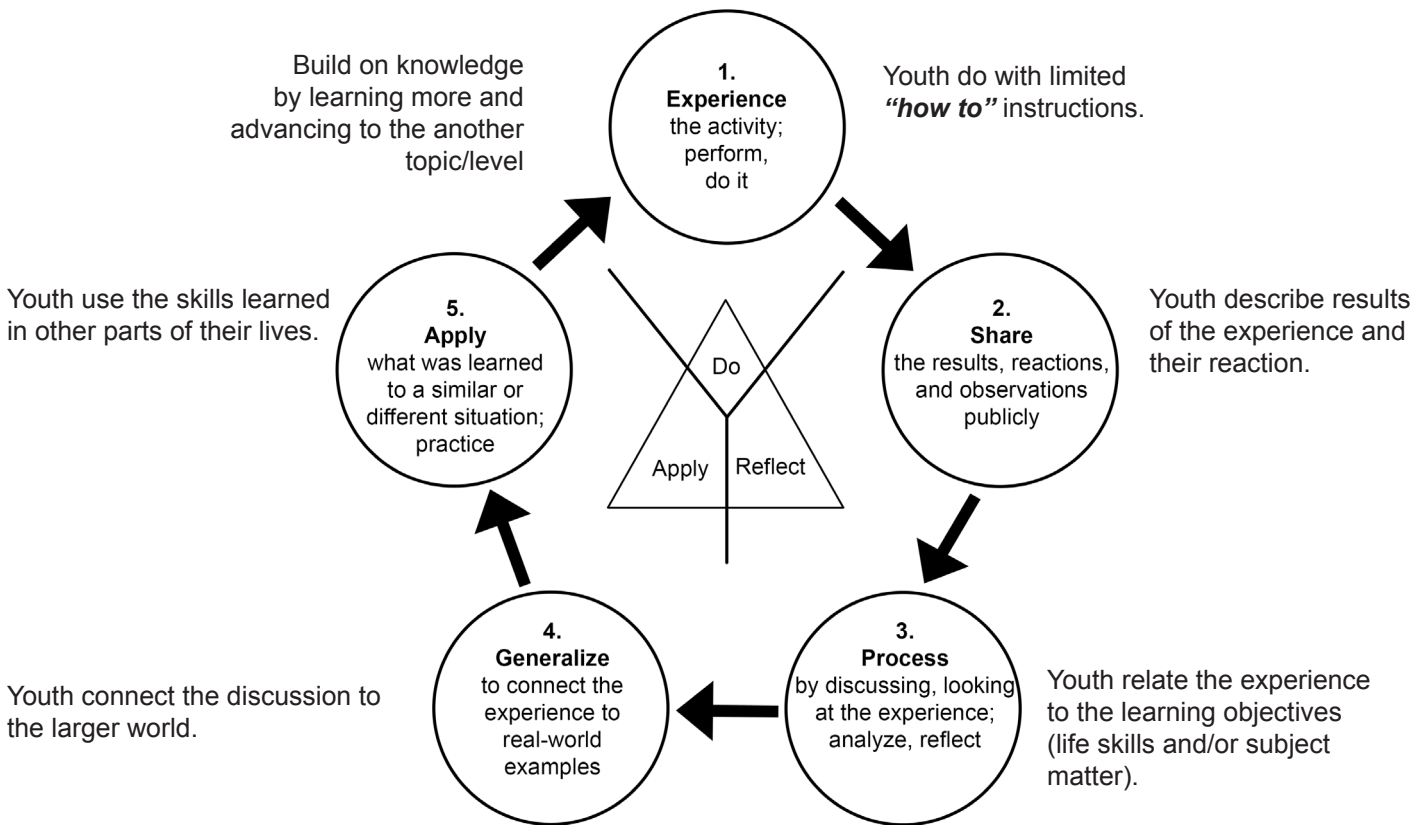
4-H is a great program because it provides options for young people to participate. From a 4-H club located in your community, a SPIN club that focuses on one particular project area, or participating in 4-H through your classroom at school, 4-H allows youth to learn in many different environments. If you are interested in joining 4-H, contact your County Extension Office and ask for a list of the 4-H clubs in your area. If you are a school teacher/educator and would like to use 4-H curriculum or these project guides in your classroom, contact your Extension Office as well for assistance.



## 4-H “Learning by Doing” Learning Approach

The Do, Reflect, Apply learning approach allows youth to experience the learning process with minimal guidance from adults. This allows for discovery by youth that may not take place with exact instructions.

### EXPLORE THE CONTENT Introduction of the topic, overview and exploration of content, and review of objectives





*Lesson 1*  
My Plate ..... 2



*Lesson 2*  
Food Preparation ..... 10



*Lesson 3*  
Food Substitutions ..... 16



*Lesson 4*  
Keeping Food Safe ..... 21



*Lesson 5*  
Food Garnishing ..... 24



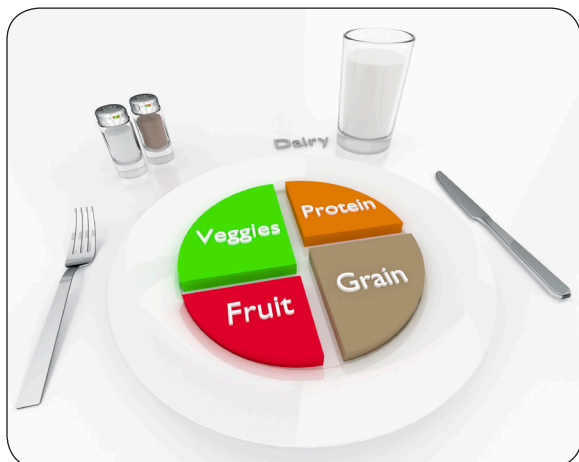
*Lesson 6*  
Cost Analysis ..... 26

Developed by:  
Courtney Dodd, Ph.D.  
Abby Melendez  
Brittany Fancher  
Shawnte Clawson  
Charlene Belew

**EXPLORE**  
Foods & Nutrition



# My Plate



## EXPLORE THE CONTENT:

**What is MyPlate?**

MyPlate was developed as part of an initiative to help consumers make better food choices. It is designed not only to change consumer behavior but to remind Americans to eat healthfully.

**How to build a healthy plate with the 5 different food groups.**

There are 5 different food groups according to MyPlate. This includes: Fruits, Vegetables, Grains, Protein Foods, and Dairy. For healthy meals, make half your plate fruits and vegetables, switch to fat free or low fat milk, make at least half your grains whole grains, and vary your protein food choices, being sure to keep meat and poultry choices small and lean.

### TIME:

30 to 35 minutes

### MATERIALS NEEDED:

- 3 sets of 3-by-5-inch cards. Sets are designated by common color.
- 3 labeled containers (large brown bags will work fine)

### OBJECTIVES:

The 4-H member will:

- Learn the basics of MyPlate.
- Be able to list the 5 different food groups.
- Learn the daily recommendations for each food group.
- Learn how to make a healthy plate.

### Daily Recommendation of each food group

The daily recommendation of food that one eats depends on your age, sex, and level of activity.

Food Group	Boys	Girls
Fruits	Ages 9-13: 1.5 cups Ages 14-18: 2 cups	Ages 9-18: 1.5 cups
Vegetables	Ages 9-13: 2.5 cups Ages 14-18: 3 cups	Ages 9-13: 2 cups Ages 14-18: 2.5 cups
Grains	Ages 9-13: 6 ounce equivalents Ages 14-18: 8 ounce equivalents	Ages 9-13: 5 ounce equivalents Ages 14-18: 6 ounce equivalents
Protein	Ages 9-13: 5 ounce equivalents Ages 14-18: 6.5 ounce equivalents	Ages 9-18: 5 ounce equivalents
Dairy	Ages 9-18: 3 cups	Ages 9-18: 3 cups

What foods fall into each food group? (For more examples go to [www.choosemyplate.gov](http://www.choosemyplate.gov))

Fruits	Vegetables	Grains	Protein	Dairy
Apples	Corn	Brown rice	Beef	Milk
Grapes	Broccoli	Oatmeal	Chicken	Ice cream
Lemons	Avocado	Corn tortillas	Eggs	Cheese
Papaya	Spinach	Spaghetti	Almonds	Yogurt
Watermelon	Black beans	Popcorn	Fish	Pudding
Kiwi	Mushrooms	Pretzels	Peanut Butter	

Provide youth with the “Go, Slow, Whoa” handout as a visual for examples of foods from each food group.

**DO:**

**Preparation:** Prepare a set of cards for each team (three teams with 15 to 20 cards each). Each set of cards should be the same, but there must be a mark that distinguishes the different teams, or three different colored index cards can be used. Each of the cards will have a picture of food (for example: a carrot, an apple, a zucchini, etc), a word can be used instead of a picture as well. Containers must be made, and should be labeled with the 5 food groups that were discussed in the educational lesson. Large brown bags or large bowls will work fine for this activity as long as they are labeled.

**Rules:**

1. 3 teams are selected, and the room is cleared to allow running a relay.
2. Each student must start behind a line, pick up a card, run and place it in the correct corresponding food group bag, and return to tag the next person in line. The next person repeats until all cards are used.
3. The winning team (first to deposit all of their cards in the containers) receives 5 points for best speed; the second team will receive 3 points; and the last team will receive 1 point.
4. The instructor will go to the containers and remove the cards, checking with the group for correct answers. Each correct answer is worth 1 point.
5. The team with the highest point total is the winner.

**REFLECT:**

- Are there any foods you struggled with knowing in which group it belongs?
- Which foods were the easiest and hardest to decide where to place?
- When you think of MyPlate, what about it makes it easy to remember?

**APPLY:**

- How will you use this information when eating at home?
- How will you apply this information when participating in the food challenge?
- How will you incorporate MyPlate information into your food challenge presentation?

**REFERENCES:**

- MyPlate. About Us. Retrieved on March 5, 2015, from <http://www.choosemyplate.gov/about.html>.
- United States Department of Agriculture (USDA). How Much Fruit Is Needed Daily? Retrieved on March 5, 2015, from <http://www.choosemyplate.gov/food-groups/fruits-amount.pdf>.
- USDA. How Many Vegetables Are Needed Daily or Weekly? Retrieved on March 5, 2015, from <http://www.choosemyplate.gov/food-groups/vegetables-amount.pdf>.
- USDA. How Many Grain Foods Are Needed Daily? Retrieved on March 5, 2015, from <http://www.choosemyplate.gov/food-groups/grains-amount.pdf>.
- USDA. How Much Food from the Protein Foods Group is Needed Daily? Retrieved on March 5, 2015, from <http://www.choosemyplate.gov/food-groups/protein-foods-amount.pdf>.
- USDA. How Much Food From the Dairy Group is needed Daily? Retrieved on March 5, 2015, from <http://www.choosemyplate.gov/food-groups/dairy.html>.
- Gilbert, G. G., Sawyer, R. G., & McNeill, B. (2011). Methods of instruction/intervention. Health Education: Creating Strategies for School and Community Health (3rd Ed) (pp. 127-128). Sudbury, Mass: Jones and Bartlett Publishers. Adapted by Abby Melendez (2015)



<b>FOOD GROUP</b>	<b>GO</b> <b>Almost Anytime Foods</b>	<b>SLOW</b> <b>Sometimes Foods</b>	<b>WHOA</b> <b>Once In Awhile Foods</b>
<b>Fruits</b> Girls 8-18: 1.5cups Boys 8-13: 1.5cups Boys 14-18: 2cups	Fresh , frozen, or canned fruit (in natural juice or water) 	100% fruit juice Canned fruit in light syrup Driedfruit 	Canned fruit in heavy syrup 
<b>Vegetables</b> Girls 8-13: 2cups Girls 14-18: 2.5cups Boys 8-13: 2.5cups Boys 14-18: 3cups	Fresh, frozen, or canned vegetables without added fat or sauces. 	All vegetables with added sauces, mashed potatoes, and avocado. 	French fries, hashbrowns, deep fried vegetables. 
<b>Grains</b> Girls 8-13: 5oz. Girls 14-18: 6oz. Boys 8-13: 6oz. Boys 14-18: 8oz.	All whole grains like brown rice, quinoa, tortillas, oatmeal. 	Refined flour: bread, rice, pasta, waffles, granola, cornbread, biscuits. 	Donuts, muffins, cookies, cakes, sweetened cereal, and cinnamon rolls. 
<b>Protein</b> Girls 8-18: 5oz. Boys 8-13: 5oz. Boys 14-18: 6.5oz.	Extra lean ground beef and turkey. Chicken, fish, tuna, beans. 	Lean ground beef, broiled hamburgers, peanut butter, nuts, eggs. 	Full fat ground beef and pork, fried hamburgers, bacon, fried chicken, fried fish, and sausage. 
<b>Dairy</b> Girls 8-18: 3cups Boys 8-18: 3cups	Fat free/low-fat: milk, yogurt, cheese 	Reduced fat 2% milk, cheesepread. 	Whole milk, full fat cheese, whole milk yogurt, ice cream. 
<b>Drinks</b>	Water, fat-free or 1% milk, unsweet icetea.	2% milk, 100% fruit juice, sports drinks, natural lemonade.	Soda, artificially flavored sweet tea and lemonade, fruit juice, whole milk.



**apple**



**banana**



**orange**



**watermelon**





**broccoli**



**corn**



**carrot**



**cucumber**



**brown rice**



**whole wheat bread**



**popcorn**



**pasta**



**eggs**



**almonds**



**chicken**



**fish**



**milk**



**yogurt**



**cheese**



**ice cream**

# Food Preparation



## TIME:

20 to 30 minutes

## MATERIALS NEEDED:

- 1 copy of crossword puzzle for each person
- Copies of recipes for each group

## OBJECTIVES:

The 4-H member will:

- Learn food preparation terminology.
- Learn the purpose of food preparation methods and when to use each.
- Understand the steps for clean and healthy food preparation.

## EXPLORE THE CONTENT:

### What are the 8 methods of Healthy Food Preparation?

- **Baking** – This is the method of placing food in a pan or dish into the oven. Baking does not require that you add extra fat to the food. If you want to make chicken breasts, season them and then stick them into the oven to bake.
- **Braising** – This involves browning (searing) your ingredient first on top of the stove in a pan, then letting your ingredient slowly cook with a small quantity of liquid (such as water or broth) while partially covered. In some recipes, the cooking liquid is used afterward to form a flavorful sauce.
- **Broiling and grilling** – Both of these methods expose food to direct heat. To grill, place the food on a grill rack above a heat source. For broiling, place food on a broiler rack below a heat source. Both of these methods allow the fat in your food to drip away. When barbequing outside grill the meat in a barbeque pit.
- **Poaching** – For this method, gently simmer ingredients in water or broth until the food is fully cooked and tender. For example, after seasoning chicken, poach it in water to make it tender.
- **Roasting** – This method is like baking but in higher temperatures. This method uses the oven's dry heat to cook the food producing a well-browned surface with juices sealed into meats. Vegetables and firm fruits such as apples, can also be roasted.
- **Sautéing** – This method cooks food quickly in a small amount of oil in a pan over direct heat. When sautéing vegetables, like onion and garlic, before adding to a soup or casserole, you want to ensure you use a pan large enough to hold all the food in one layer.
- **Steaming** – This is one of the simplest methods. Steam your food in a perforated basket suspended above simmering liquid. If the liquid is flavorful the food will have that flavor as well. Just be sure the cooking water does not run dry. Steaming food is a healthy cooking option as it doesn't require fat to be added and helps preserve the vitamins and minerals in the food.
- **Stir-frying** – This method is a traditional Asian method. Stir-frying involves cooking small pieces of food while they're rapidly stirred in a wok or large nonstick frying pan. This method only needs a small amount of oil or cooking spray. Add vegetables and a protein of your choice to a pan in oil and make a stir fry.



### Steps for clean and healthy food preparation

- Step 1: Source your ingredients. Make sure you have all of your ingredients before you start cooking.
- Step 2: Wash your hands. Your hands can spread bacteria easily which is why it's important to wash your hands before, during, and after cooking.
- Step 3: Keep your worktops and cooking materials clean. Don't forget to change out your dish cloths regularly because they can harbor bacteria.
- Step 4: Separate raw meat/fish from dry/ready prepared ingredients. Keep raw meats away from foods that are ready for consumption.
- Step 5: Where relevant, wash, peel, chop and grate ingredients before you start cooking.
- Step 6: Clean up as you go along so that you keep work surfaces clean and manageable.

### DO:

#### Activity 1: Crossword Puzzle

- At the end of the educational lesson, pass out a copy of the puzzle for each student to complete. Give them 7 minutes to try and complete it without notes, if they still aren't done with the puzzle once the 7 minutes are over, allow them to use their notes.

#### Activity 2: Preparation Steps

- Hand out the recipes that are attached on page 5. Allow the students to work in groups of 3 to 4 and have them put the steps of preparation in order.

#### Activity 3: Ingredients Food Preparation

- Give the children a list of ingredients from a recipe and work in groups of 3 to 4 to determine what methods of food preparation they would use and why.

### REFLECT:

- What methods of food preparation are you most familiar with?
- What methods of food preparation are you not very familiar with?
- What method of food preparation do you use most often when cooking?
- What is a popular food preparation technique not mentioned in the lesson? Why do you think it was left out?

### APPLY:

- Why is the order of food preparation important?
- What methods of food preparation have you used when cooking at home?
- Do you follow the steps for healthy and clean food preparation at home? Why is this important?
- Should a restaurant or cafeteria use similar food safety steps? Why or why not?

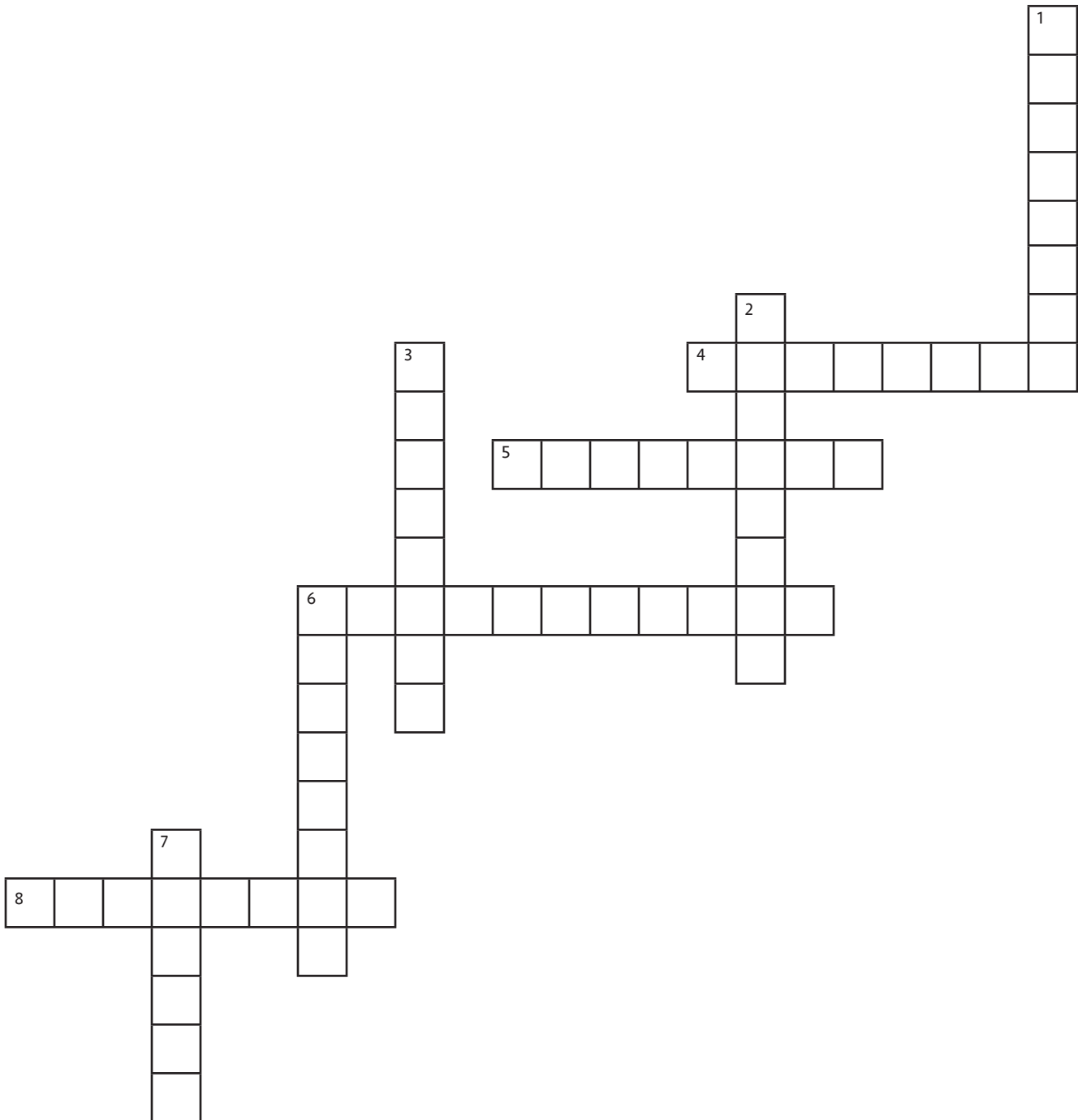
### REFERENCES:

- ACS Distance Education (2013). Food Preparation– The Basics. Retrieved on March 4, 2015, from <http://www.acsedu.co.uk/Courses/Hospitality/FOOD-PREPARATION-BRE212-694.aspx>.
- Mayo Clinic (2014). Healthy cooking techniques: Boost flavor and cut calories. Retrieved on March 4, 2015, from <http://www.mayoclinic.org/healthy-living/nutrition-and-healthy-eating/in-depth/healthy-cooking/art-20049346?pg=1>.
- The Teachers Corner (n.d.). Crossword Puzzle Maker. Retrieved on March 4, 2015, from <http://worksheets.theteacherscorner.net/make-your-own/crossword/>.
- All Recipes (n.d.) Award Winning Soft Chocolate Chip Cookies. Retrieved on March 2, 2015, from <http://allrecipes.com/recipe/award-winning-soft-chocolate-chip-cookies/detail.aspx>.
- Fischbach, A. (2015). Cheesy chicken pasta bake. Retrieved on March 2, 2015, from <http://alidaskitchen.com/2015/02/17/cheesy-chicken-pasta-bake-recipe/>.
- Jeanie, Lulu (2015). Chicken Parmigiana. Retrieved on March 2, 2015, from <http://jeanieandluluskitchen.com/recipe/chicken-parmigiana/>.

Name: \_\_\_\_\_

# FOOD PREPARATION

Complete the crossword below



## ACROSS

- rack of food is above the heat source
- this method is like baking but in higher temperature
- traditional Asian method
- suspended; never touches water

## DOWN

- gently simmer ingredients in water or broth until tender
- rack of food is below the heat source
- browning ingredients first then letting it slowly cook in liquid
- cooks food quickly in small amount of oil
- placing food in the oven

**Answers located at end of lesson**

Name: \_\_\_\_\_

## PREPARATION STEPS

### CHICKEN PARMIGIANA

#### Directions

1. Place the breaded chicken in the hot oil to pan fry on the first side for about 3 minutes and get super crispy and golden. Flip over and cook for another 3 minutes to get just as crispy and golden on the other side. Remove them to a plate lined with paper towel.
2. Once the breading line is set up, fill a cast iron skillet with an inch and a half of canola oil and heat it over medium high heat to pan fry the chicken. While the oil gets hot put all 4 chicken breasts through the breading line. Use one hand to coat the chicken in the flour, the other hand to dip it in the egg wash mixture, then back to the first hand to coat it in the breadcrumbs. This keeps it as clean and neat as possible. Transfer the chicken to the plate once it is breaded.
3. Preheat oven to 350 degrees.
4. Set up the breading line for the chicken with three large, shallow bowls. In the first bowl mix together the flour, dried onion and dried oregano. In the second bowl whisk together the eggs, water and minced garlic. In the third bowl, mix together the breadcrumbs and parmesan cheese. Have a plate handy to hold the breaded chicken.
5. When time is up, remove the baking dish from the oven and let the chicken rest a minute. Sprinkle finely chopped fresh parsley on top for some green freshness. Serve immediately!
6. Move the chicken into a baking dish and top each piece with 1/4 cup of marinara sauce. Lay 2 slices of smoked mozzarella on each piece to finish assembling the chicken parmigiana. Place the baking dish in the oven and bake for 15 minutes.

### Award Winning Soft Chocolate Chip Cookies

#### Directions

1. Bake for 10 to 12 minutes in the preheated oven. Edges should be golden brown.
2. Preheat oven to 350 degrees F (175 degrees C).
3. Beat in the instant pudding mix until blended.
4. Blend in the flour mixture.
5. Finally, stir in the chocolate chips and nuts.
6. Sift together the flour and baking soda, set aside.
7. In a large bowl, cream together the butter, brown sugar, and white sugar.
8. Stir in the eggs and vanilla.
9. Drop cookies by rounded spoonfuls onto ungreased cookie sheets.

### Cheesy Chicken Pasta Bake

#### Directions

1. In a large pot, cook pasta to al dente according to package directions. Complete additional recipe steps while pasta is cooking.
2. Place chicken in the same nonstick skillet and cook until no longer pink (about 3 to 6 minutes, depending on the size of the pieces).
3. Add cooked vegetables and stir.
4. Pour in pasta sauce, Greek yogurt, and 1 cup cheese, and stir until combined.
5. Combine cooked pasta with chicken and vegetables.
6. Pour into prepared baking dish. Sprinkle with remaining cheese and cover with foil to bake for 10 minutes.
7. Remove foil and bake for an additional 5 minutes, or until cheese is melted and bubbly.
8. Preheat oven to 375 degrees F. Spray a 13x9-inch baking dish with cooking spray and set aside.
9. Heat oil in a large nonstick skillet. Add onions and pepper, and cook for 5 minutes, or until softened. Add garlic and cook for one minute, or until fragrant. Move cooked vegetables into a bowl and set aside.



Name: \_\_\_\_\_

## INGREDIENTS & FOOD PREPARATION ACTIVITY

Create a recipe using the ingredients listed below.

What method of food preparation should be used for each ingredient?	Write out preparation steps for the recipe
Ingredient: 4 Mission Artisan Corn & Whole Wheat Blend Tortillas	
Ingredient: 8 oz. Sirloin steak	
Method:	
Ingredient: ½ cup Teriyaki marinade	
Method:	
Ingredient: ½ cup cucumber	
Method:	
Ingredient: ½ cup carrots	
Method:	
Ingredient: ½ tsp. fresh ginger	
Method:	
Ingredient: ½ tsp. sesame seeds	
Method:	

# FOOD PREPARATION - ANSWERS

Complete the crossword below

The crossword puzzle grid contains the following words:

- Across:** STEAMING (8), STIR-FRYING (6), ROASTING (5), GRILLING (4)
- Down:** BROWN (7), KITCHEN (1), BAKING (3)

The grid is partially filled with the following letters:

- Row 1: S, T, E, A, M, I, N, G
- Row 2: K, I, C, H, E, N
- Row 3: S, T, I, R, -, F, R, Y, I, N, G
- Row 4: A, U, T, E, I, N, G
- Row 5: R, O, A, S, T, I, N, G
- Row 6: G, R, I, L, L, I, N, G
- Row 7: B, A, K, I, N, G

## ACROSS

4. rack is above the heat source
5. this method is like baking but in higher temperature
6. traditional Asian method
8. suspended, never touches water

## DOWN

1. gently simmer ingredients in water or broth until tender
2. rack of food is below the heat source
3. browning ingredients first then letting it slowly cook in liquid
6. cooks food quickly in small amount of oil
7. placing food in the oven

# PREPARATION STEPS - ANSWERS

Chicken Parmigiana: 3, 4, 2, 1, 6, 5

Award winning soft Chocolate Chip Cookies: 2, 6, 7, 3, 8, 4, 5, 9, 1

Cheesy Chicken Pasta Bake: 8, 1, 9, 2, 3, 5, 4, 6, 7

# Food Substitutions



**TIME:**

25 to 30 minutes

**MATERIALS NEEDED:**

- Printed copies of recipes

**OBJECTIVES:**

The 4-H member will:

- Learn why food substitutions are important to a healthy diet.
- Be able to list at least 5 or more food substitutions to create a dish that is healthier.

**EXPLORE THE CONTENT:**

**What is a Food Substitution?**

Food substitution is the simple art of altering a recipe to make it healthier. There are many ways to create healthy food recipes by just replacing one simple ingredient and not having to sacrifice taste and enjoyment. Below are a few examples of food substitutions.

**Simple Food Substitutions**

Instead of	Try this
Butter, margarine, shortening or oil in baked goods	Applesauce or prune puree for half of the called-for-butter, or butter spreads that don't have trans fats
Eggs	Two egg whites
Pasta, enriched (white)	Whole-wheat pasta, Veggie pasta
Sour cream, full fat	Fat-free or low-fat sour cream, plain fat-free or low fat yogurt
Regular ground beef	Lean ground beef or lean ground turkey
Whole milk	1% milk or skim milk
Flour, all-purpose (plain)	Whole-wheat flour for half of the recipe and all-purpose for the other half
Bread crumbs, dry	Rolled oats or crushed bran cereal
Butter, margarine, shortening or oil to prevent sticking	Cooking spray or nonstick pans
Sugar	Reduce the amount of sugar by one-half; intensify sweetness by adding vanilla, nutmeg, or cinnamon
White bread	Whole-grain bread

**DO:**

Divide the students into three evenly split teams. Give each team a recipe and have them make at least 3 substitutions to make it a healthier option. Allow the students about 7 minutes to brainstorm. Once they are finished, instruct each group to present what they came up with.

\*\*\*Recipes are attached or any recipe may be used.

**REFLECT:**

- What were some obvious food substitutions you made?
- What were some potential food substitutions that were harder to identify?

**APPLY:**

- Are there any food substitutions you commonly use at home?
- Why is it important to make food substitutions when cooking?
- What other dishes can you think of that would be healthier if food substitutions were made? What might a substitution be for these dishes?

**REFERENCES:**

- Mayo Clinic (2014). Healthy Recipes: A guide to ingredient substitutions. Retrieved on March 2, 2015, from <http://www.mayoclinic.org/healthy-living/nutrition-and-healthy-eating/in-depth/healthy-recipes/art-20047195>.
- All Recipes (n.d.) Award Winning Soft Chocolate Chip Cookies. Retrieved on March 2, 2015, from <http://allrecipes.com/recipe/award-winning-soft-chocolate-chip-cookies/detail.aspx>.
- Fischbach, A. (2015). Cheesy chicken pasta bake. Retrieved on March 2, 2015, from <http://alidaskitchen.com/2015/02/17/cheesy-chicken-pasta-bake-recipe/>.
- Jeanie, Lulu (2015). Chicken Parmigiana. Retrieved on March 2, 2015, from <http://jeanieandluluskitchen.com/recipe/chicken-parmigiana/>.
- Bielamowicz, M. C. (2012). Altering Recipes for Good Health. Texas A&M Agrilife Extension, pp.8.
- Health & Human Services (n.d.). Tips for Healthy Substitutes. Retrieved on April 8, 2015, from [http://www.health.gov/dietaryguidelines/dga2005/healthieryou/html/tips\\_healthy\\_subs.html](http://www.health.gov/dietaryguidelines/dga2005/healthieryou/html/tips_healthy_subs.html).



# CHICKEN PARMIGIANA

## Ingredients

### FOR THE CHICKEN

¾ cup	All-purpose flour	½ tablespoon	Minced garlic
½ teaspoon	Dried onion	¾ cup	Seasoned breadcrumbs
½ teaspoon	Dried oregano	1 tablespoon	Freshly grated parmesan cheese
2 whole	Eggs	4	Whole boneless skinless chicken breasts
1 dash	Water		Canola Oil as much needed for pan frying

### FOR ASSEMBLING THE CHICKEN PARMIGIANA

- 1 jar homemade marinara
- 8 slices mozzarella
- fresh parsley finely chopped as needed for garnish

## Instructions

1. Preheat oven to 350 degree F.
2. Set up the breading line for the chicken with three large, shallow bowls. In the first bowl mix together the flour, dried onion and dried oregano. In the second bowl whisk together the eggs, water and minced garlic. In the third bowl, mix together the breadcrumbs and parmesan cheese. Have a plate handy to hold the breaded chicken.
3. Once the breading line is set up, fill a cast iron skillet with about an inch and a half of canola oil and heat it over medium high heat to pan fry the chicken. While the oil gets hot put all 4 chicken breasts through the breading line. Use one hand to coat the chicken in the flour, the other hand to dip it in the egg wash mixture, then back to the first hand to coat it in the breadcrumbs. This keeps it as clean and neat as possible. Then just transfer the chicken to the plate once it is breaded.
4. Place the breaded chicken into the hot oil to pan fry on the first side for about 3 minutes and get super crisp and golden. Flip over and cook for another three minutes to get just as crispy and golden on the other side. Remove them to a plate lined with paper towel.
5. Move the chicken into a baking dish and top each piece with a 1/4 cup of marinara sauce. Lay 2 slices of smoked mozzarella on each piece to finish assembling the chicken parmigiana. Place the baking dish in the oven and bake for 15 minutes.
6. When time is up, remove the baking dish from the oven and let the chicken rest a minute. Sprinkle finely chopped fresh parsley on top for some green freshness. Serve immediately!

# AWARD WINNING SOFT CHOCOLATE CHIP COOKIES

## Ingredients

4 1/2 cups	All-purpose flour	2 packages	Instant vanilla pudding mix
2 teaspoons	Baking soda	4	Eggs
2 cups	Butter, softened	4 cups	Semisweet chocolate chips
1 1/2 cups	Brown sugar (packed)	2 cups	Chopped walnuts
1/2 cup	White sugar		

## Instructions

1. Preheat oven to 350 degrees F (175 degrees C).
2. Sift together the flour and baking soda, set aside.
3. In a large bowl, cream together the butter, brown sugar, and white sugar.
4. Beat in the instant pudding mix until blended.
5. Stir in the eggs and vanilla.
6. Blend in the flour mixture.
7. Finally, stir in the chocolate chips and nuts.
8. Drop cookies by rounded spoonfuls onto ungreased cookie sheets.
9. Bake for 10 to 12 minutes in the preheated oven. Edges should be golden brown.

# CHEESY CHICKEN PASTA BAKE

## Ingredients

1 box (16 oz)	Pasta	1 pound	Boneless, skinless chicken breast, cut into bite-sized pieces
1 tablespoon	Oil		
1	Yellow onion, chopped	1 jar (32 oz)	Pasta sauce
1	Red bell pepper, chopped	½ cup	Nonfat Greek yogurt
2	Cloves garlic, minced	2 cups	Italian cheese blend, shredded & divided

## Instructions

1. Preheat oven to 375F degrees. Spray a 13x9-inch baking dish with cooking spray and set aside.
2. In a large pot, cook pasta to al dente according to package directions. Complete additional recipe steps while pasta is cooking.
3. Heat oil in a large nonstick skillet. Add onions and pepper, and cook for 5 minutes, or until softened. Add garlic and cook for one minute, or until fragrant. Move cooked vegetables into a bowl and set aside.
4. Place chicken in the same nonstick skillet and cook until no longer pink (about 3 to 6 minutes, depending on the size of the pieces).
5. Add cooked vegetables and stir.
6. Combine cooked pasta with chicken and vegetables.
7. Pour in pasta sauce, Greek yogurt, and 1 cup cheese, and stir until combined.
8. Pour into prepared baking dish. Sprinkle with remaining cheese and cover with foil to bake for 10 minutes.
9. Remove foil and bake for an additional 5 minutes, or until cheese is melted and bubbly.

# SUBSTITUTIONS FOR RECIPES

## Chicken Parmigiana

Instead of	Try this
All-purpose flour	Substitute half with whole wheat flour
Eggs	Egg whites
Bread crumbs	Rolled oats or crushed bran cereal
Freshly grated parmesan cheese	Fat free or reduced calorie cheese
Mozzarella	Part-skim, low moisture mozzarella cheese

## Award Winning Soft Chocolate Chip Cookies

Instead of	Try this
All-purpose flour	Substitute half with whole wheat flour
Butter, softened	Applesauce or prune puree/ butter spreads that don't have trans fats
Brown sugar/ white sugar	Reduce the amount of sugar by one-half and intensify sweetness by adding vanilla, nutmeg or cinnamon
Eggs	Egg whites
Semisweet chocolate chips	Sugar free chocolate chips

## Cheesy Chicken Pasta Bake

Instead of	Try this
White pasta	Whole wheat pasta
Cheese	Fat-free cheese or reduced calorie cheese

# Keeping Food Safe



## EXPLORE THE CONTENT:

### Four Core Principles of Food Safety

**Clean:** Wash hands and surfaces often.

Bacteria can be spread throughout the kitchen and get onto hands, cutting boards, utensils, counter tops and food. When preparing food, one should always:

- Wash your hands with warm water and soap for at least 20 seconds before and after handling food and after using the bathroom, changing diapers and handling pets.
- Wash your cutting boards, dishes, utensils, and counter tops with hot soapy water after preparing each food item and before you go on to the next food.
- Consider using paper towels to clean up kitchen surfaces. If you use cloth towels wash them often in the hot cycle of your washing machine.
- Rinse fresh fruits and vegetables under running tap water, including those with skin and rinds that are not eaten.
- Rub firm-skin fruits and vegetables under running tap water or scrub with a clean vegetable brush while rinsing with running tap water.

**Separate:** Don't cross-contaminate.

Cross-contamination is how bacteria can be spread. When handling raw meat, poultry, seafood and eggs, keep these foods and their juices away from ready-to-eat foods. Always start with a clean scene—wash hands with warm water and soap. Wash cutting boards, dishes, countertops and utensils with hot soapy water.

- Separate raw meat, poultry, seafood and eggs from other foods in your grocery shopping cart, grocery bags and in your refrigerator.
- Use one cutting board for fresh produce and a separate one for raw meat, poultry and seafood.
- Never place cooked food on a plate that previously held raw meat, poultry, seafood or eggs.

**Cook:** Cook to the proper temperature.

Food is safely cooked when it reaches a high enough internal temperature to kill the harmful bacteria that cause foodborne illness.

- Use a food thermometer to measure the internal temperature of cooked meat, poultry and egg dishes to make sure that the food is cooked to a safe internal temperature.
- Cook roasts and steaks to a minimum of 145F. All poultry should reach a safe minimum internal temperature of 165 F as measured with a food thermometer. Check the

### TIME:

30 minutes

### MATERIALS NEEDED:

- Fluorescent lotion (1 tsp per child)\*
- Ultraviolet (UVA) black light\*
- Sink with warm water
- Soap
- Paper towels
- Nail brushes (optional)

\*If not available, use cooking oil on their hands and then sprinkle them with cinnamon. Have participants follow the same hand-washing procedure for the activity, with cinnamon representing the germs.

### OBJECTIVES:

The 4-H member will:

- Learn the four core principles of food safety.
- Learn how to thoroughly wash hands to eliminate bacteria.
- Practice proper and thorough hand washing.





internal temperature in the innermost part of the thigh and wing and the thickest part of the breast with a food thermometer.

- Cook ground meat, where bacteria can spread during grinding, to at least 160 F. Eating undercooked ground beef is linked to a higher risk of illness. Remember, color is not a reliable indicator of doneness.
- Cook eggs until the yolk and white are firm, not runny.
- Cook fish to 145 F or until the flesh is opaque and separates easily with a fork.
- Make sure there are not cold spots in food when cooking in a microwave oven. For best results, cover food, stir and rotate for even cooking.
- Bring sauces, soups and gravy to a boil when reheating. Heat leftovers thoroughly to 165 F.

**Chill: Refrigerate promptly.**

Refrigerate foods quickly because cold temperatures slow the growth of harmful bacteria. Do not over-stuff the refrigerator. Cold air must circulate to help keep food safe. Keeping a constant refrigerator temperature of 40 F or below is one of the most effective ways to reduce the risk of foodborne illness. Use an appliance thermometer to be sure the temperature is consistently 40 F or below. The freezer temperature should be 0 F or below.

- Refrigerate or freeze meat, poultry, eggs and other perishables as soon as you get them home from the store.
- Never let raw meat, poultry, eggs, cooked food or cut fresh fruits or vegetables sit at room temperature more than two hours before putting them in the refrigerator or freezer (one hour when the temperature is above 90 F).
- Never defrost food at room temperature. Food must be kept at a safe temperature during thawing. There are three safe ways to defrost food: in the refrigerator, in cold water, and in the microwave. Food thawed in cold water or in the microwave should be cooked immediately.
- Always marinate food in the refrigerator.
- Divide large amounts of leftovers into shallow containers for quicker cooling in the refrigerator.
- Use or discard refrigerated food on a regular basis.

**DO:**

*Please note: this activity requires a darkened environment (a place where lights can be turned off).*

As you begin the activity, remind youth of the key points of hand washing.

- Bacteria are on our hands even if we do not see them.
  - Wash hands well before eating or handling food to avoid getting yourself or others sick.
  - Wash hands immediately after handling any raw meat or eggs.
  - Wash hands for at least 20 seconds, typically how long it takes to sing “Happy Birthday” or the alphabet.
  - Wash hands thoroughly and often.
1. Prior to the activity, ask youth if they can tell how clean their hands are by how they look.
  2. Have them touch the bottom of their shoes and then look at their hands to see if they can tell how clean they are by how they look.
  3. Give each child fluorescent lotion on their hands and have them rub it into their skin.
  4. Then, have each child wash their hands with cold water (no soap).
  5. Provide the ultraviolet light for youth in a darkened environment to see if any lotion is on their hands.
  6. Have each youth wash their hands again, but this time with warm, soapy water at the sink for at least 20 seconds. If available, provide each with a nail scrub brush to use.
  7. Provide the ultraviolet light for youth in a darkened environment to see if any lotion is on their hands, comparing it with what was left on their hands after the first washing.



**REFLECT:**

- What did you see after the first time you washed your hands with cold water and no soap?
- What did you see on your hands after you washed your hands a second time with warm, soapy water for 20 seconds?
- Can you tell how clean your hands are by how they look?

**APPLY:**

- Why is it important to wash your hands well before eating or handling food?
- How will this information be useful when participating in the food challenge?
- How is this information important to food service workers in cafeterias or restaurants?

**REFERENCES:**

- Fight Bac! Partnership for Food Safety Education: The core four practices. Taken from: [www.fightbac.org/food-safety-basics/the-core-four-practices/](http://www.fightbac.org/food-safety-basics/the-core-four-practices/)
- University of California: Department of Nutrition (January 2012). Healthalicious Cooking: Learning about Food and Physical Activity, Lesson 1. Publication 8450.

# Food Garnishing



## TIME:

30 to 35 minutes

## MATERIALS NEEDED:

Any of the following:

- Vegetable peeler
- Zucchini
- Carrots
- Chocolate bar
- Deviled eggs (ingredients)
- Salsa (ingredients)
- Lemons
- Gremolata (ingredients)
- Pipers
- Tomatoes
- Radishes

## OBJECTIVES:

The 4-H member will:

- Learn why garnishing is an important part of cooking.
- Be able to list at least 2 or more ways to garnish a plate.
- Be able to garnish their plate more efficiently.

## EXPLORE THE CONTENT:

### What is Food Garnishing?

- Food garnishing is adding a decorative piece of an edible ingredient such as parsley, lemon wedges, croutons or chocolate curls as a finishing touch to a dish or drink. There are many ways to garnish your food, and you have to be able to use your imagination and creative side.

### Ways to garnish food

- **Add curls & twirls:** use a vegetable peeler to shave large curls of any food you want. This can vary from cheese to fruits or even chocolate. Some examples include: topping salads or pasta dishes with curls of parmesan, arranging chocolate curls on top of a cake or cupcakes, or making twirls with carrots and zucchini.
- **Add Gremolata:** you can top your entrees and soups with gremolata. This is an Italian garnish consisting of chopped parsley, garlic and lemon peel. You can try other combinations so that it compliments the main dish. For example: minced lime peel, cilantro, and toasted coconut on top of grilled shrimp or minced lemon peel, basil and shallot on top of baked chicken.
- **Add chives:** use chives to garnish any savory dish. You can use them whole or cut them into shorter sections.
- **Slices and sprigs:** lemon or lime halves paired with a sprig of cilantro or parsley will add a simple splash of color to your plate.
- **Add specks of color:** stir chopped fresh herbs into cooked rice or add avocado slices to brown rice.
- **Piping:** this can be used for other foods, not just dessert. Make deviled eggs with the help of piping. You can pipe food by filling a piping bag with an ingredient (chocolate, mayonnaise, etc.) and snipping off the tip. Then you are able to draw any shape that you would like on a cake or on your deviled eggs.
- **Salsa:** make salsas out of fruits or vegetables that compliment the entrée and top the main dish with the salsa. For example: stir together fresh corn, diced red pepper, green onions and a little lime juice. This will add both flavor and color to your dish.
- **Skewers:** use large toothpicks or small wooden skewers to present the food that is complementary to the main dish. For example: thread pieces of cooked sausage and cubes of crusty bread onto the toothpicks and serve with hearty bean soups.

**DO:**

Cooking Demonstration

For this activity, you will demonstrate to the children a few examples of simple garnishing.

- Curls & Twirls using a vegetable peeler.
- How to make gremolata (Italian garnish consisting of chopped parsley, garlic, and lemon peel) then place it on a chicken breast.
- How to make deviled eggs by piping.
- How to make a salsa and add it as a topping to the chicken breast.
- Adding slices and sprigs to an entrée.

Throughout this lesson, ask the children what they think would look good on certain plates.

Once you are done with the demonstration, allow the students to practice the garnishing skills that were demonstrated.

**REFLECT:**

- What were some easy garnishes you tried making?
- What garnishes were harder to make?
- What are some other ideas for garnishing that you have?

**APPLY:**

- Why is garnishing important?
- What is your favorite garnishing technique?
- How and why do restaurants use garnishes?

**REFERENCES:**

- Campbell's Kitchen (n.d.). Top Ten Garnishes. Retrieved on March 9, 2015, from [http:// www.campbellskitchen.com/cookingtips/gettingcreative/top%20ten%20garnishes](http://www.campbellskitchen.com/cookingtips/gettingcreative/top%20ten%20garnishes).
- BBC (n.d.). How to pipe chocolate decorations. Retrieved on April 7, 2015, from [http://www.bbc.co.uk/food/techniques/how\\_to\\_pipe\\_chocolate\\_decorations](http://www.bbc.co.uk/food/techniques/how_to_pipe_chocolate_decorations).

# Cost Analysis



## EXPLORE THE CONTENT:

### What is cost analysis?

Cost analysis helps us compare price based on the unit versus the whole item. Figuring the cost analysis helps us understand how much a serving or single item costs instead of the whole ingredient package.

### Why is cost analysis used?

Cost analysis is used to determine the cost of each portion of the meal that you are cooking. It also helps you determine the total cost of dish as well as cost per serving. This is important so that you won't buy too many ingredients and let them go to waste. Cost analysis can also help you save money if you do it correctly.

### How to figure cost analysis

Figuring cost analysis is simple. All you have to do is divide the total cost of the item by the number contained in the package. The nutrition facts label will display this information. Once you are done doing this, you know how much each item cost.

### Cost Analysis Formula:

Total Cost / # in package = Cost per serving/unit

### Examples of cost analysis:

#### Eggs:

A carton of eggs costs \$2.19. There are 12 eggs in each carton.

To figure out the cost per egg, divide 2.19 by 12.

$$2.19/12 = .1825$$

The cost would be 18 cents per egg.

If the recipe you are using calls for 3 eggs, then you multiply .18 by 3.  $3 \times .18 = .54$

The total cost of the three eggs to make your recipe is 54 cents.

#### Bread:

A loaf of bread costs \$1.49.

There are 22 slices in each loaf. Use the formula.  $1.49/22 = .07$  per slice

If you used 6 slices of bread, then you multiply  $.07 \times 6 = .42$  cents. The total cost of the 6 slices of bread would be 42 cents.

### TIME:

35 to 40 minutes

### MATERIALS NEEDED:

- 2 sets of 3-by-5-inch cards. Sets are designated by common color.
- 2 labeled containers (large brown bags will work fine)
- Pencils

### OBJECTIVES:

The 4-H member will:

- Learn to figure cost analysis.
- Learn how to determine cost of amount of ingredient used.
- Learn how to figure total cost of dish.
- Learn how to figure cost per serving

**DO:****Educational Relay**

Preparation: Prepare a set of cards for each team (two teams with 15 to 20 cards each). Each set of cards should be the same. Containers can be made for each team to place their cards into once they are done solving the problem (large brown bags work fine), or each team can just create a stack of completed cards.

## Rules:

1. Divide youth into two (2) teams, and clear the room to allow running a relay. Please note: you may need more teams depending on the number of participants.
2. Each student must start behind a line, pick up a card, talk to their team and solve the cost analysis problem together. Use the pencil that is provided, write down their answer on the card, and then run to place it in the container/bag.
3. They must return to tag the next person in line, and repeat step 2 until all cards are used.
4. The winning team (first to deposit all of their cards in the containers) receives 5 points for best speed; the second team will receive 3 points.
5. The instructor will go to the containers and remove the cards, checking with the groups for correct answers. This can also be done by using an "honest system" and having each team indicate whether they figured the cost analysis correctly and keeping track of their points. The instructor should talk through each problem with the youth. Each correct answer is worth one (1) point.
6. The team with the highest point total wins.

**Example index cards are on the following pages.**

**REFLECT:**

- When doing the relay, was figuring the cost analysis harder than you thought?
- What were some of the more difficult items to figure cost?
- Why is it important to figure cost analysis?

**APPLY:**

- Would you figure cost analysis when preparing a meal at home? Why or why not?
- If you compared costs, do you spend more money preparing food at home or by eating food prepared for you? Why or why not?
- When is a time you might choose to eat food prepared for you rather than prepare it at home? Why?

**REFERENCES:**

- Gilbert, G. G., Sawyer, R. G., & McNeill, B. (2011). Methods of instruction/intervention. Health Education: Creating Strategies for School and Community Health (3rd Ed) (pp. 127-128). Sudbury, Mass: Jones and Bartlett Publishers. Adapted by Abby Melendez (2015).
- McVety. (2009). Determining portion costs and selling prices (pp. 91-92). Kendall Hunt Publishing. Adapted by Abby Melendez (2015).

**Example 1:**

If the cost of Ritz crackers is \$3.27, what is the cost per serving?

**Nutrition Facts**

Serving Size 15 crackers (16g)  
Servings Per Container About 28

**Amount Per Serving**

**Calories** 80      Calories from Fat 35

**Answer: \$** \_\_\_\_\_

**Example 2:**

If the cost of Domino Sugar is \$2.49, what is the cost per serving?

**Nutrition Facts**

Serving Size 1 Tsp (3g)  
Servings Per Container About 132

**Amount Per Serving**

**Calories** 10

**Answer: \$** \_\_\_\_\_

**Example 3:**

If the cost of Nature's Own Whole Wheat Bread is \$2.89, what is the cost per serving?

**Nutrition Facts**

Serving Size 1 slice (28g)  
Servings Per Container 20

**Amount Per Serving**

**Calories** 70      Calories from Fat 45

**Answer: \$** \_\_\_\_\_

**Example 4:**

If the cost of a carton of eggs is \$2.49, what is the cost per serving?

**Nutrition Facts**

Serving Size 1 egg (50g)  
Servings Per Container 12

**Amount Per Serving**

**Calories** 70      Calories from Fat 45

**Answer: \$** \_\_\_\_\_

**Example 5:**

If the cost of frozen Broccoli is \$1.47, what is the cost per serving?

**Nutrition Facts**

Serving Size 2 florets (85g)  
Servings Per Container About 21

**Amount Per Serving**

**Calories** 30      Calories from Fat 0

**Answer: \$** \_\_\_\_\_

**Example 6:**

If the cost of Barilla Tri-Color Rotini is \$1.69, what is the cost per serving?

**Nutrition Facts**

Serving Size 2 oz (56g - about 1/6 box)  
Servings Per Container About 6

**Amount Per Serving**

**Calories** 200      Calories from Fat 10

**Answer: \$** \_\_\_\_\_

**Example 7:**

If the cost of Hidden Valley Ranch Dressing is \$2.78, what is the cost per serving?

**Nutrition Facts**

Serving Size 2 Tbsp (30mL)  
Servings Per Container 35

**Amount Per Serving**

**Calories** 80      Calories from Fat 70

**Answer: \$** \_\_\_\_\_

**Example 8:**

If the cost of a bag of Fritos Original Corn Chips is \$3.98, what is the cost per serving?

**Nutrition Facts**

Serving Size 1 oz (28g/About 32 chips)  
Servings Per Container About 11

**Amount Per Serving**

**Calories** 160      Calories from Fat 90

**Answer: \$** \_\_\_\_\_



**Example 9:**

If the cost of a one pound package of ground beef is \$5.47, what is the cost per serving?

**Nutrition Facts**

Serving Size 4 oz (112g)  
Servings Per Container 4

**Amount Per Serving**

**Calories** 170      Calories from Fat 70

**Answer: \$** \_\_\_\_\_

**Example 10:**

If the cost of a half gallon of chocolate milk is \$1.92, what is the cost per serving?

**Nutrition Facts**

Serving Size 1 cup (249g)  
Servings Per Container 8

**Amount Per Serving**

**Calories** 210      Calories from Fat 80

**Answer: \$** \_\_\_\_\_

**Example 11:**

If the cost of a can of chicken noodle soup is \$1.58, what is the cost per serving?

**Nutrition Facts**

Serving Size 1 cup (240g)  
Servings Per Container 2

**Amount Per Serving**

**Calories** 90      Calories from Fat 15

**Answer: \$** \_\_\_\_\_

**Example 12:**

If the cost of a box of Fiber One granola bars is \$2.50, what is the cost per serving?

**Nutrition Facts**

Serving Size 1 bar (40g)  
Servings Per Container 5

**Amount Per Serving**

**Calories** 140      Calories from Fat 30

**Answer: \$** \_\_\_\_\_

**Example 13:**

If the cost of a jar of spaghetti sauce is \$3.93, what is the cost per serving?

**Nutrition Facts**

Serving Size 1/2 cup (120g)  
Servings Per Container About 6

**Amount Per Serving**

**Calories** 70      Calories from Fat 25

**Answer: \$** \_\_\_\_\_

**Example 14:**

If the cost of a carton of orange juice is \$3.38, what is the cost per serving?

**Nutrition Facts**

Serving Size 8 fl. oz. (240mL)  
Servings Per Container 7

**Amount Per Serving**

**Calories** 110      Calories from Fat 0

**Answer: \$** \_\_\_\_\_

**Example 15:**

If the cost of a box of cereal is \$3.22, what is the cost per serving?

**Nutrition Facts**

Serving Size 1/2 cup (55g)  
Servings Per Container About 8

**Amount Per Serving**

**Calories** 240      Calories from Fat 60

**Answer: \$** \_\_\_\_\_

**Example 16:**

If the cost of a rotisserie chicken is \$6.99, what is the cost per serving?

**Nutrition Facts**

Serving Size 3 oz (85g)  
Servings Per Container About 8

**Amount Per Serving**

**Calories** 170      Calories from Fat 110

**Answer: \$** \_\_\_\_\_

**Example 17:**

If the cost of a package of Oreo's is \$2.98, what is the cost per serving?

**Nutrition Facts**

Serving Size 2 cookies (29g)  
Servings Per Container About 10

**Amount Per Serving**

**Calories** 140      Calories from Fat 60

**Answer: \$** \_\_\_\_\_**Example 18:**

If the cost of a pint of Ben & Jerry's ice cream is \$3.97, what is the cost per serving?

**Nutrition Facts**

Serving Size 1/2 cup (101g)  
Servings Per Container 4

**Amount Per Serving**

**Calories** 260      Calories from Fat 130

**Answer: \$** \_\_\_\_\_**Example 19:**

If the cost of Gold Medal's All Purpose Flour is \$2.46, what is the cost per serving?

**Nutrition Facts**

Serving Size 1/4 cup (30g)  
Servings Per Container About 75

**Amount Per Serving**

**Calories** 100

**Answer: \$** \_\_\_\_\_**Example 20:**

If the cost of blueberry PopTarts is \$1.98, what is the cost per serving?

**Nutrition Facts**

Serving Size 1 Pastry (52g)  
Servings Per Container 8

**Amount Per Serving**

**Calories** 200      Calories from Fat 50

**Answer: \$** \_\_\_\_\_



## NUTRITION COST PER SERVING ANSWERS

EXAMPLE 1	\$0.12	EXAMPLE 11	\$0.79
EXAMPLE 2	\$0.02	EXAMPLE 12	\$0.50
EXAMPLE 3	\$0.14	EXAMPLE 13	\$0.66
EXAMPLE 4	\$0.20	EXAMPLE 14	\$0.48
EXAMPLE 5	\$0.07	EXAMPLE 15	\$0.40
EXAMPLE 6	\$0.28	EXAMPLE 16	\$0.87
EXAMPLE 7	\$0.08	EXAMPLE 17	\$0.30
EXAMPLE 8	\$0.36	EXAMPLE 18	\$0.99
EXAMPLE 9	\$1.37	EXAMPLE 19	\$0.03
EXAMPLE 10	\$0.24	EXAMPLE 20	\$0.25





MARKING INSTRUCTIONS

CORRECT: ● INCORRECT: ✗ ⊗ ⊖ ⊕

4-H Explore  
Project Book Evaluation - Food & Nutrition

1. Please read the statement in the left column of the table below. Bubble in the circles that describe your level of understanding **BEFORE** attending this program. In the section on the far right, bubble in the circles that describe your level of understanding **AFTER** attending this program. You will have two bubbles per row.

LEVEL OF UNDERSTANDING: 1 = Poor, 2 = Average, 3 = Good, 4 = Excellent	BEFORE				AFTER			
As a result of participating in the Food & Nutrition project lessons and activities...	1	2	3	4	1	2	3	4
I understand the basics of MyPlate and how to use it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand the 8 methods of healthy food preparation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand how to keep food safe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand why food substitutions are important to a healthy diet.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand how to create decorative garnishes for a plate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand how to figure cost analysis.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. For each statement below, fill in the bubble that best describes you.

INTENTIONS TO ADOPT: As a result of participating in the Food & Nutrition Project lessons and activities...	Yes	No	Unsure
I will use MyPlate when cooking or selecting food to prepare healthy meals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I plan to eat more fruit and vegetables.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I plan to utilize the various food preparation methods when cooking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I plan to incorporate healthy substitutions where possible.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will always practice proper hand washing techniques, especially when cooking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can keep my food preparation space safe and sanitary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can garnish a dish to make it look nice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will take cost analysis into consideration when cooking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. For each statement below, fill in the bubble that best describes your level of agreement with the following statements.

BEHAVIOR CHANGES: As a result of participating in the Food & Nutrition Project lessons and activities...	Strongly Disagree	Disagree	Agree	Strongly Agree
I am more comfortable working in a team.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more willing to listen to others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more comfortable speaking with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more confident in my abilities as a leader.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand the importance of delegating responsibilities within a team.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



**MARKING INSTRUCTIONS**

CORRECT: ● INCORRECT: ✗ ⊗ ☐ ○

3. What is the most significant thing you learned in the Food & Nutrition project?

Please tell us about yourself.

**Gender:**       Female     Male

**I consider myself to be:**     African American                       White  
    Asian American                          Other  
    Native American

**I consider myself to be:**     Hispanic     Non-Hispanic

**Grade:**     3rd     5th     7th     9th     11th  
                  4th     6th     8th     10th     12th

**Most of the time, you live . . .**

Farm or ranch                                       Suburb of city between 50,000  
 Town less than 10,000                          Central city/urban center with more than 50,000  
 City between 10,000 - 50,000

Please provide any additional comments below.

