Food brings us all together. It provides nourishment; it fuels and is fueled by our creativity; and it is shared by us all, in many settings, and at many times. Of course plants are central to our food supply, both directly and indirectly. Simply said, without plants, there is no food.

New insights and discoveries about the role of plants as food are made daily. Of the 400,000 known plant species, more than 20,000 are edible, yet fewer than 20 crop species provide 90% of our food today. The history of our country—and of the world—has both shaped and been shaped by the plants we eat: wheat, corn, potatoes, coffee, rice, and so on. Behind each of the plants we use for food, there is a rich and fascinating story to be told.

At the Garden, we educate and inspire people to appreciate plants as food from botanical, nutritional, historical, geographical, and cultural perspectives. As a leader in sustainability, the Garden also educates and inspires people to grow more of their own food and become wiser consumers about the food they eat. Globally, the Garden works with communities to document traditional knowledge about food plants and the methods used to grow, harvest, and use them while also promoting and supporting their conservation and the development of more sustainable practices and livelihoods.

Throughout this year and going forward, we invite you to explore the stories of your food, from the ways they are grown, to the ways they are prepared and enjoyed, by whom, and in what circumstances. Celebrate and conserve the plants of the world that nourish us. We hope you will think about and appreciate the plants on your plate in new ways and become inspired to taste, plant, and grow.

Dr. Peter Wyse Jackson
President, Missouri Botanical Garden
FOODOLOGY: DIG IN!

Digging in to the Roots of Our Food...... 4
Exhibits .................................................. 4
Special Events ........................................ 5
Classes .................................................... 7

GROW

Grow Your Own........................................... 8
The Edible Exchange................................. 8
Plant Your Plate ........................................ 9
Dig In and Volunteer ................................... 10
Get to the Roots of Your Food...................... 10
Sources ...................................................... 11

PRODUCTION AND PROCESSING

Count Your Corn ........................................ 12
Nourish Your Knowledge ............................ 14
One Food, Multiple Ways............................ 15
What Is Processed? ..................................... 16
Processed Food Tours ................................ 17
Try Me! ...................................................... 18
Sources ...................................................... 19

BUY

Farm Fresh................................................ 20
Sensibly Seasonal...................................... 21
Slash Your Food Spending ......................... 21
Thrifty Food Plan ....................................... 22

EAT

Eat the Alphabet ....................................... 23
Eat the Rainbow ....................................... 23
Family Favorites ...................................... 24
How Does Your Plate Stack Up? .................. 25
Cooking in the Great Outdoors ................. 25

LIFESTYLE

Meander to a Meal ..................................... 27
Stop-Light Your Snacks ............................... 28
Connect with Your Community .................. 29
Turn off the Tube ....................................... 30
Family Food Journal ................................ 31

DIG DEEPER

Scavenger Hunt! ........................................ 32

The Family Food Challenge team includes Garden educators as well as Fontbonne University students Nicole Farmer, Amanda Macklin, Karen Mills, Jessica Oliverson, Carly Reidt, and Sarah Woods. Nicole is a consumer products major; Amanda and Carly are biology majors; and Karen, Jessica, and Sarah are all dietetics majors. All food and nutrition information was first reviewed by a registered dietitian. The information provided is not intended to diagnose or treat any medical conditions. Before proceeding with any change in diet, lifestyle, or supplementation, please contact your doctor.

©2013 Missouri Botanical Garden
Digging in to the Roots of Our Food

Food. Its nourishment connects us all. But beyond providing basic nourishment, food can spark memories, inspire creativity, expand our horizons, and bring us together. Within our community connections, plants play a starring role. The nutrients of food have found their way from field to fork for millennia.

What do we know about the plants we eat? Where do they come from? How are they grown? Why are foods passed down from generation to generation? What can we learn from faraway communities and cultures about sustainable food? What is your personal food story?

Throughout 2013, you are invited to dig in with the Missouri Botanical Garden and explore the foods you eat. Experience Foodology at the Garden and think about the plants on your plate in new ways. Connect with other Garden visitors by sharing your food stories. Complete the Family Food Challenge and get inspired to take action and make a difference.

Exhibits

What St. Louis Eats – we need YOU!

Everybody eats, and we have lots of reasons to. We need to eat to sustain ourselves physically, and we enjoy food on many different levels. It comforts us; it inspires us; it excites us; it brings us together. People around the world all share these and many other reasons to eat. Culture and history influence not only the what, but the why, where, when, and how of eating. Closer to home, we’re curious: What is St. Louis eating? What plants are on your plates, and how are they making their way from garden to table? What food traditions have been passed down for generations in your family? What choices are you making about the food you eat and why? Go online to learn how to submit YOUR photo or video depicting what YOU eat: your favorite meal, your garden’s first crops, or something that just says St. Louis food to you. www.mobot.org/stleats.

Foodology: Digging in to the Roots of Our Food

Brookings Interpretive Center, April–December, 2013 | 9 a.m. to 5 p.m. daily

How far did your lunch travel? Of the 400,000 or so plant species, how many are edible? Are we really what we eat? This fun, hands-on, interactive exhibit will challenge visitors of all ages to explore what they eat in ways that spark curiosity, ignite ideas, and inspire action. Test your Food IQ, calculate how far your food travels, travel the globe to “eat” at another family’s kitchen table, and take home a Family Food Challenge journal of your own!

The Brookings Interpretive Center offers an indoor, family-friendly destination for themed exhibits encouraging hands-on discovery, exploration, and learning. Nestled between the Climatron® and the Shoenberg Temperate House, and adjacent to the Doris I. Schnuck Children’s Garden, the Brookings Interpretive Center is ideally situated to engage families, school and youth groups, and individual visitors.
Doris I. Schnuck Children’s Garden – Edible Garden
April to October | 9 a.m. to 4 p.m. daily

Throughout this summer, the Children’s Garden is inviting kids and families to get back to their roots—specifically the roots of their food! Visitors to the Edible Garden can get their hands dirty; help us prepare soil, plant seeds, water, and care for baby plants; harvest fruits and veggies; and sample the bounty.

Join us on Tuesdays and Saturdays from 10 a.m. to noon for staff-led discoveries in the Edible Garden. Learn about growing food in your own back yard, how to maintain an edible garden, and why it is beneficial to grow a garden. Get tips on how to start one no matter what size yard you have.

Just Grow It
William T. Kemper Center for Home Gardening, May to October | 9 a.m. to 5 p.m. daily

From a larger-than-life exhibit focused on beneficial bugs (and how to best manage their pest counterparts) to celebrating the role of plants in our personal food chain to enjoying seasonal vegetable tastings, learn how you can ensure a successful harvest with help from the Center for Home Gardening.

Special Events
Savor Your Summer: Serving up Something Special Every Day!
May 28 through August 25
Included with Garden admission (additional fees apply to “Spicy Sunday” food/beverages)

This summer, the Garden is serving up something special every day of the week! From Celebrity Chef Mondays to Spicy Sundays, the Savor Your Summer experience will introduce you to local chefs making a difference, inspire you to help local food pantries, expand your horizons with global cuisine, and motivate you to grow a kitchen in your back yard! Visit regularly and earn stamps in your Foodology: Savor Your Summer Guide & Journal each time to collect rewards, tips, and inspiring ideas to help you “dig in” to the plants that nourish us all!

Visit www.mobot.org/foodology for the schedule of events for this tasty lineup.

Savor Your Summer Daily Menu
(All events are included with regular Garden or Children’s Garden admission*)

Celebrity Chef Mondays
Demonstrations at 11 a.m. and 1 p.m.
Center for Home Gardening Classroom; seating is limited; first-come, first-seated.

Every Monday, a different local chef will take the helm of the Kemper Center kitchen, whipping up a unique culinary demonstration, serving up samples, and sharing stories, tips, and favorite recipes. Participants will receive a different recipe card each week.

Herbs & Heirlooms Tuesdays
10 a.m. to noon

St. Louis Herb Society and Garden staff co-host a special presentation in the Garden’s famed Victorian District, focused on “Cultural Culinary Herbs” from across the globe. From ground plantings of Greek, Italian, Mexican, and Spanish herbs to container gardens featuring French, Lebanese, Thai, Chinese, and Indian herbs, visitors will experience the diverse herbs that flavor our world. Each Tuesday, the first 200 participants will take home an herb plant of their own, along with an accompanying recipe.
Backyard Kitchen Wednesdays
10 a.m. to noon
Each Wednesday a selection of three unusual vegetables will be available for visitors to taste-test at the Center for Home Gardening. The whole plant will be on display, along with bite-sized samples and information about how to grow, harvest, and prepare the featured food plant. Also from 10 a.m. to noon, experienced Garden staff and volunteers will be on hand to lead “What’s Growing Now” mini-tours of the demonstration fruit and vegetable gardens, answer visitor questions, and provide expert tips for transforming your backyard into a multi-season extension of your kitchen.

Food-for-All Thursdays
1 to 3 p.m.
In partnership with St. Louis Area Food Bank, the Garden will be raising awareness of local hunger and collecting food donations from visitors every Thursday afternoon.

Food of Our Roots Fridays
11 a.m.
Travel the globe each Friday and trek into the Garden with a Garden Docent to experience first-hand some of the global food plants of significance. From broadening perspectives about popular foods like chocolate and coffee to shining a deserving light on internationally important food crops like cocoa and cassava, the Friday line-up of food plant tours will transport you to far-away places while increasing appreciation of how plants feed our world. Meet at the guided tour location in Ridgeway Visitor Center.

Family Food Saturdays
1 to 3 p.m.
Saturdays are all about family, and family is largely about food! Each Saturday, kids and their families are invited to “dig in” to the plants they eat. Experience the Edible Garden in the Children’s Garden by watering, digging in the soil, playing games, or taste-testing what’s growing. The first 200 children will pot a veggie plant of their own to take home!

Spicy Sundays
1 to 3 p.m.
Across the Garden grounds, “Spicy Sunday” stations will feature refreshments, concoctions, and edible delights that use common and not-so-common spices. Visitors will have the chance to guess the secret spice and enjoy the culinary creation!

*Beverages and food at Spicy Sunday refreshment stations are not included with Garden admission

Foodology Film Series
June through September | Presented by
Join us the second Thursday evening of each month from 7 to 9 p.m. for a free feast of food-related films. Learn more at www.mobot.org/foodfilms.

June 13.....................In Organic We Trust
July 11 ......................GROW!
August 8 ....................Cafeteria Man
September 12 ..............American Meat
Classes
Get inspired to make some changes in the way you choose, purchase, and cook food! Join us for a year’s worth of culinary adventures, connections, and inspiration! Throughout 2013, the Garden will be inviting one and all to explore the spicy, savory, wonderful world of food. From celebrating and conserving the plants of the world that nourish us to inspiring community conversations about local, healthful, sustainable foods. Explore the cultural origins of food, learn how to prepare plant-inspired meals, and discover the benefits of eating local with our full menu of food and cooking classes.

For more information go to www.mobot.org/classes
The Family Food Challenge starts by considering the extraordinary growth process of how tiny seeds eventually make their way onto your plate as food. In this section, you’ll find challenges focused around the “grow” theme. In addition to becoming more familiar with the people and processes that go into growing the foods you eat, you’ll also find resources and ideas for growing more of your own fruits and veggies.

**Challenge 1: Grow Your Own**

While purchasing a tomato from the store isn’t nearly as satisfying as pulling a ripened fruit off the vine in your own back yard, you may not have the space to start a huge food garden. That doesn’t mean you can’t grow some of your own food, though. First, consider the space you have. Several acres of open field? A small patch of grass for a back yard? A windowsill or balcony? Any of these spaces can produce a tasty harvest with a little bit of work. Keeping your space in mind, research the types of foods that can be grown there. If you’re limited to a balcony or kitchen windowsill, look into herb or container gardening. Although a big plot of land does give you more options, it’s not necessarily a requirement for starting a garden of your own.

**The Challenge:** Plant your own garden, whether it’s an herb garden in your kitchen, a container garden on your patio, or a traditional veggie garden in your back yard. Don’t let your living space limit your possibilities.

**Challenge 2: The Edible Exchange**

You invested in some seeds and planted them lovingly, making sure to give them the proper amounts of water, space, and care needed to grow. Now your garden is overflowing with the fruits (and veggies!) of your labor. You’ve experienced for yourself the delight of biting into a juicy tomato that you grew yourself or the simple pleasure of starting the day off with an omelet full of just-harvested herbs from your kitchen window. Why not share with your friends, family, or neighbors? Who knows? You might even inspire them to start growing their own too or get to try something new from their garden in return.

**The Challenge:** Don’t just keep your garden’s bounty to yourself—share it with others by starting your own edible exchange and using some of the suggestions below as a guide.

- Try hosting a dinner party around a meal that spotlights the seasonal foods from your garden. If those on your guest list have green thumbs as well, make the event a potluck and challenge each to bring a dish highlighting a particular ingredient from their own garden. Be sure to exchange recipes during the course of the meal! Want to make the challenge even harder? Make the entire meal plant-based!
- Have a neighbor who doesn’t like to cook? Offer to make him or her dinner using some of the excess produce you’ve grown.
- You have limited space, but there’s so much you want to grow. Make a deal with a fellow gardening friend or loved one. For example: You’ll grow the tomatoes, and they’ll grow the zucchini. When it’s time to harvest, swap some of your extra tomatoes for some of their extra zucchini.
Sure, you may take the time to think about how the food you eat affects your health. But have you ever stopped to consider the role that your food choices play in the health of the environment?

**Think about it!** Would it take more energy and resources to grow a completely plant-based meal or to make that cheeseburger at your favorite fast-food spot? Based on the information in the Environmental Working Group’s (EWG) “Meat Eater's Guide to Climate Change and Health” (2011), a plant-based diet may be the way to go if you’re worried about the planet’s well-being. But don’t feel like it’s all or nothing. According to the EWG, simply skipping meat and cheese just once a week can have the same environmental impact over the course of a year as removing 7.6 million cars from the roads.

Why are animal products so energy-intensive? Consider all the steps that go into making a cheeseburger. For starters, livestock have to eat too, and typically, they’re given crops, like soybean and corn, that require large amounts of chemicals, fuel, and water to produce. Nitrogen fertilizers used to grow these crops give off the greenhouse gas known as nitrous oxide, and these and other chemical fertilizers tend to contaminate water as well. When cows, sheep, and other ruminant animals digest their food, they produce another greenhouse gas known as methane. The waste these animals eliminate following digestion is also toxic, producing both methane and nitrous oxide. After the animals have been fattened up, they go to a processing plant to be slaughtered. Transportation may not account for much greenhouse gas emissions (only about 10%), but slaughterhouses tend to pollute waterways with their toxic pollutants. In the end, 20% of the meat products that are made are thrown out and ultimately end up in landfills (EWG, 2011). In other words, not only was the meat itself wasted, but so were all of the resources that went into making it.
The Challenge: You don’t have to go vegan for the rest of your life to help lessen the environmental impacts of a meat lover’s diet. Instead, try out one (or all) of the following suggestions to help decrease your diet’s carbon footprint:

• Don’t have time to make a delicious veggie meal? No need to reach for a fast food burger. Use it as an excuse to explore one of St. Louis’s vegetarian restaurants. Or try a new plant-based dish at your favorite omnivore spot.

• Do “Meatless Monday” your way: Designate a day of the week (not necessarily Monday) or a certain meal of the day to be entirely plant-based.

• Make your salads even greener. Cheese has the third largest carbon footprint, right under lamb and beef. If you’re a frequent salad eater, try skipping the cheese a few times a week.

Challenge 4: Dig In and Volunteer!

Perhaps you don’t have the time or space to keep up with your own garden. Maybe you want to get some insider tips on how to grow your favorite foods. Or maybe you want to support the growers in your community. All are great reasons to dig in and volunteer at a farm or garden.

The Challenge: Research area farms and gardens and contact the ones of interest to see if they have a volunteer program you can join. Connect with your community and your food.

Want to get involved at the Missouri Botanical Garden while sharing your passion for garden-fresh foods? Take the challenge a step further and become a horticulture volunteer in the Children’s Garden or the Kemper Center for Home Gardening. Contact the Volunteer Program for more information (See “More to Explore” for website link).

Challenge 5: Get to the Roots of Your Food

Organic? Non-GMO? Fair Trade? When you walk into the supermarket, it’s hard not to get overwhelmed by the nutritional claims on the boxes and bags of your favorite foods. But what does it all mean? And, more importantly, does it really matter if that chocolate bar is Fair Trade and organic? Here’s a brief overview of what these labels mean:

Fair Trade: This means that the food was produced ethically. As an example, paying farmers fair compensation for the food or product they grow or produce is considered fair trade. (Fair Trade USA, 2010).

Organic: A food bearing the U.S. Department of Agriculture (USDA) “organic” label is one that was not treated with synthetic fertilizers, sewage sludge, or radiation during growing. In addition, this label ensures that the food has not been genetically modified (USDA, 2013).

Non-GMO: GMO stands for “genetically modified organism” and refers to those plants or animals that contain DNA from other species, such as other plants or animals, as well as bacteria or viruses (Non-GMO Project, 2013). Around 90% of the corn produced in the country is genetically modified (GM).
The Challenge: No, you don’t have to buy all organic fruits and veggies to complete this challenge. Instead, get to know some of your favorite plant foods and how they’re produced in order to make informed decisions about the types of foods you should splurge (or save) on at the grocery store or farmers’ market.

• For most people, buying all organic fruits and veggies just isn’t an option. However, you can still decrease your exposure to pesticides by choosing the organic version of some of the most heavily contaminated foods (EWG, 2012). Take a look at the EWG’s “Dirty Dozen” list. Try buying the organic version of the items on the list that you consume the most. If any of your favorite foods appear on the “Clean Fifteen” list, save money by purchasing the conventional versions of those items.

• Can’t make it through the day without a caffeine or chocolate fix? Pledge to buy Fair Trade bars and brews.

• Encourage kids to get to know the “who” of their food by having them interview a favorite vendor at your local farmers’ market. Use it as an opportunity to ask your own questions about the methods that particular grower employs to produce his or her crops.

More to Explore: The Garden offers a variety of classes for adults and families alike on topics ranging from growing your own food to enjoying plant foods in delicious new ways. www.mobot.org/classes

Want to learn more about how your diet affects your health and that of the planet? Check out the Environmental Working Group’s “Meat Eater’s Guide to Climate Change and Health” www.ewg.org/meateatersguide

Are your favorite fruits and veggies “clean” or “dirty”? The Environmental Working Group’s “Dirty Dozen” and “Clean Fifteen” lists can be accessed at www.ewg.org/foodnews.

The Agricultural Marketing Service of the USDA goes into more detail about the National Organic Program and what it means. www.ams.usda.gov/AMSv1.0/nop

Learn more about who benefits from Fair Trade and which of your favorite products have the label at www.fairtradeusa.org

For additional information on how to become a volunteer at the Missouri Botanical Garden, visit www.mobot.org/volunteer

Sources:


Food is important to everyone. It is not only what you eat but the stories behind it, like the story of Grandma’s famous pie, made from a recipe passed down from her grandmother. But besides these types of family stories, have you ever really thought about your food and how it gets to you? Much of the food we consume today is processed. That means that it is not in the original state. It can be frozen, canned, dehydrated, pasteurized…the list goes on. Why do you buy the foods you do? Is it because you like the taste? Is it cheaper or easier to prepare? Thinking about answers to these questions can help you understand why you buy the foods you do. This next section is all about the production and processing of food.

**Challenge 6: Count Your Corn**

Corn is one of the most important foods grown in America. Everything we own has some connection to corn, from its being part of the food we eat to ethanol gas used to fuel our cars and planes. How do you know if what you are consuming has a connection to corn? You have to read the label.

How to read a nutrition and food label:

If you’re looking just at the box, you might never know what ingredients are in your food. Granola bars only have oats in them, you say. Wrong. Yellow corn flour is the fourth item on the list. Ingredients are listed in descending order by weight. What other ingredient contains corn? The brown sugar syrup!
The Challenge: Now you try. What corn-based products can you find in this nutrition label for wheat bread?

_______________________________________
_______________________________________
_______________________________________

Answer: Yes, corn starch is in the bread but what else? Eggs and milk. They are connected to corn because the animals consume corn as part of their diet.

Here is a list of common foods connected to corn:
For a list of the ingredients connected to corn, visit www.cornallergens.com/list/corn-allergen-list.php

Baby food
Yogurt
Beer
Breakfast cereals
Licorice
Granola bars
Cake mixes
Candy
Livestock (feed)
Canned vegetables
Malted products
Soft drinks
Margarine
Cheese spreads
Mayonnaise
Gum
Prepared mustard

Chocolate products
Peanut butter
Corn meal
Potato chips
Salad dressings
Dessert mixes
Edible oils
Some syrups
Flour and grits
Tacos, tortillas
Frozen foods
Bread
Instant coffees and teas
Whiskey
Jams, jellies, and preserves
Ketchup
**Challenge 7: Nourish Your Knowledge**

From books and magazines to movies and short films on the Internet there are so many stories to tell about food. Have you ever picked up a book or rented a movie about food? What did you learn? Did what you learn have an impact on what you eat today? How many books, movies, and magazines can there really be just on food?

**The Challenge:** Visit the local library with your family and investigate what food-themed books they have. Check out one for each member of the family and schedule a storytelling night. Prefer movies? Rent a food-themed movie and schedule a family movie night. Don’t forget to include some tasty snacks. Reflect on your experience as a family. Discuss something you learned that surprised you. Did you learn anything new?

**Family Reading:**

- *A Fruit Is a Suitcase for Seeds*, Jean Richards and Anca Hariton
- *Compost Stew*, Mary McKenna Siddals and Ashley Wolff
- *Eat Lots of Colors: A Colorful Look at Healthy Nutrition for Children*, Helen Marstiller and Valerie Bouthyette
- *Eating the Alphabet: Fruits & Vegetables from A to Z*, Lois Ehlert
- *From Seed to Plant*, Gail Gibbons
- *From the Garden: A Counting Book About Growing Food*, Michael Dahl and Todd Ouren
- *Good Enough to Eat: A Kid’s Guide to Food and Nutrition*, Lizzy Rockwell
- *Green Start: In the Garden*, IKids
- *Green Thumbs: A Kid’s Activity Guide to Indoor and Outdoor Gardening*, Laurie Carlson
- *Growing Vegetable Soup*, Lois Ehlert
- *Grow It, Cook It*, DK Publishing
- *Grow Your Own Pizza: Gardening Plans and Recipes for Kids*, Constance Hardesty and Jeff McClung
- *Kids in the Garden: Growing Plants for Food and Fun*, Elizabeth McCorquodale
- *Molly’s Organic Farm*, Carol L. Malnor and Trina L. Hunner
- *MyPlate and You*, Gillian M. Olson
- *Showdown At The Food Pyramid*, Rex Barron
- *The Berenstain Bears and Too Much Junk Food*, Stan Berenstain and Jan Berenstain
- *The Vegetables We Eat*, Gail Gibbons
- *Tops & Bottoms*, Janet Stevens
- *What’s in the Garden?*, Marianne Berkes and Cris Arbo

**Grown-up Reading:**

- *Comfort Food Makeovers*, Editors at America’s Test Kitchen
- *Eat Like a Dinosaur: Recipe & Guidebook for Gluten-Free Kids*, Paleo Parents and Elana Amsterdam
What is your favorite fruit or vegetable? Did you ever stop to think about how many ways it can be consumed? Take green beans, for example. They can be fresh, frozen, canned, pickled, or dehydrated. Here are some pros and cons of all the methods of processing food in a variety of ways:

**Fresh:** The best way to get all key vitamins and minerals. The taste is better and the food has more flavor. The problem is that the food doesn’t stay fresh long and must be consumed within days of purchase.

**Frozen:** It can slow or stop mold and pest growth. This allows the produce to stay fresher longer. However, the item’s shelf life depends on the storage conditions.

**Dehydration:** The removal of water in the food. It is a relatively inexpensive way to preserve food. To get the food back to its original state, just add water and heat up.

**Canned:** One of the most common methods, but it also has many drawbacks. Canned food can be highly processed with many added chemicals to preserve the food. The taste is also not always the most pleasing. However, it is a good method for storage of food for months at a time.

**Challenge:** What is your favorite food? Keep a log (see below) on your favorite food and think about why you like it. Is it the taste, texture, smell, or price? Think of the number of different ways you can eat it. For example, tomatoes are extremely versatile as they can be dried (sun dried), canned, fresh, and frozen.

Favorite food: ______________________________________________

<table>
<thead>
<tr>
<th>Method of storage</th>
<th>Comments on taste, texture, smell, price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
</tr>
<tr>
<td>Canned</td>
<td></td>
</tr>
<tr>
<td>Dried</td>
<td></td>
</tr>
</tbody>
</table>
Challenge 9: What Is Processed?

Processed foods are defined as those that “have been altered from their natural state, either for safety reasons or for convenience. The methods used include canning, freezing, refrigeration, dehydration, and aseptic processing” (Jegtvig, 2013). While not all of these processes are bad, they can affect our health in a number of different ways. Many frozen and canned foods contain higher levels of sodium, which is used as a preservation method. There is also the concern for higher fat and calorie content in other foods such as chips.

However there are benefits to processed foods. Pasteurized beverages are heated to high temperatures to kill bacteria that can cause food-borne illnesses. Another example of good processing is foods that are fortified with vitamins and minerals. An example of this would be orange juice with calcium. Fortification is defined as foods that have vitamins and minerals added to them that were lost during manufacturing. Enriched foods have vitamins and minerals added to them that were not originally present in the unprocessed state.

Below is a list of processed foods:

**Baked goods/grains**
- White flour
- White rice
- Salt
- Baking powder
- Bread
- Macaroni
- Pasta
- Cakes
- Cake mixes
- Pies
- Pie crust mixes
- Cookies

**Processed fruits**
- Canned fruit
- Frozen fruit
- Fruit sauces
- Jellies
- Jams
- Pie fillings
- Fruit juice

**Processed vegetables**
- Canned vegetables
- Frozen vegetables

**Pickled vegetables**
- French fries

**Convenience foods**
- Pizza
- Precooked foods
- Frozen dinners
- Breakfast cereal
- Granola
- Energy bars

**Processed meat**
- Canned meat
- Cured meat
- Ham
- Lunch meat
- Sausage
- Bacon
- Gelatin
- Fresh meat with additives

**Processed Dairy Foods**
- Cheese
- Cheese food
- Milk (homogenized, pasteurized, skim, low-fat, etc.)
**Processed fats and oils**
- Refined oils
- Cooking spray
- Margarine
- Peanut butter

**Condiments**
- Salad dressing
- BBQ sauce
- Mustard
- Ketchup
- Mayonnaise

**Drinks**
- Soft drinks
- Fruit drinks
- Instant breakfast drinks

**Confections**
- White sugar
- Brown sugar
- Corn syrup
- Rice syrup
- Honey (unless raw)
- Syrups
- Candies
- Soft candies
- Pudding
- Dessert mixes
- Ice cream
- Frozen desserts
- Whipped cream
- Chocolate
- Marshmallows
- Shredded coconut
- Sugar substitutes

**Challenge:** Keep a journal for one week. Include all foods and beverages consumed. At the end of the week, tally all the foods you have eaten into two categories: processed and not processed. Then discuss the following:

- What was the most interesting surprise for you?
- Do you plan on making any changes to your diet as a result of this? How and why are you planning on changing? (Helpful hint: Do NOT say that you are going to get rid of all processed food in your diet. Make reasonable goals that are easy to achieve).

**Challenge 10: Processed Food Tours**

Most of the food we consume today is processed, from frozen and canned to dehydrated and pasteurized. Have you ever wondered how processed foods are made? How is it processed? Who makes them? How long does it take? Where do their ingredients come from?

**Challenge:** As a family, investigate one of the processed foods you eat. There are a few places in St. Louis that offer tours to the public of their processing plants (see pg. 17). Check out your community to see what is offered locally to you. Challenged to find a tour? Then try a virtual one. There are a few resources below. After your tour, list three or more things that you learned. (Please note: for the brewery tours you must be 21 years or older.)

**Where did you go and when?**

__________________________________________________________

**Three or more things that you learned:**

_________________________________________________________________

_________________________________________________________________

_________________________________________________________________
## Local Tours

<table>
<thead>
<tr>
<th>Breweries</th>
<th>Sweets &amp; Snacks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Schlafly Bottleworks</strong></td>
<td><strong>Chocolate Chocolate</strong></td>
</tr>
<tr>
<td>7260 Southwest Ave.</td>
<td><strong>Chocolate Factory</strong></td>
</tr>
<tr>
<td>Maplewood, MO 63143</td>
<td>5025 Pattison Ave.</td>
</tr>
<tr>
<td>(314) 241-2337 ext. 285 or <a href="http://www.schlafly.com/tours/">www.schlafly.com/tours/</a></td>
<td>St. Louis, MO 63110</td>
</tr>
<tr>
<td><strong>Anheuser-Busch InBev</strong></td>
<td>(314) 338-3501 or <a href="http://www.chocolatechocolate.com">www.chocolatechocolate.com</a></td>
</tr>
<tr>
<td>12th &amp; Lynch Street</td>
<td><strong>The Billy Goat Chip Company</strong></td>
</tr>
<tr>
<td>St. Louis, MO 63118</td>
<td>3136 Watson Road</td>
</tr>
<tr>
<td>(314) 577-2626 or <a href="http://www.budweisertours.com">www.budweisertours.com</a></td>
<td>St. Louis, MO 63139</td>
</tr>
<tr>
<td></td>
<td>(314) 353-4628 or <a href="http://www.billygoatstl.com">www.billygoatstl.com</a></td>
</tr>
</tbody>
</table>

## Online Interactive Tours

**How is Chocolate made?** The Hershey plant in West Hershey, PA, produces a variety of chocolate products.  
[www.history.com/shows/modern-marvels/videos/how-chocolate-is-made#how-chocolate-is-made](http://www.history.com/shows/modern-marvels/videos/how-chocolate-is-made#how-chocolate-is-made)

**How are Jelly Belly Beans made?** They are made in the kitchens of the Jelly Belly Candy Company in Fairfield, CA and Chicago, IL. Everything is made from scratch, and they use natural ingredients whenever possible.  
[www.jellybelly.com/Virtual_Tour/virtual_tour.aspx](http://www.jellybelly.com/Virtual_Tour/virtual_tour.aspx)

**Tootsie Rolls: Modern Marvels** takes us inside the Tootsie Roll warehouse and shows us just where our favorite candy comes from. You need to check out this great clip on where the candy came from and how it came to be so famous.  

**Herr’s Snack Factory** offers virtual factory tours of how they make chips, pretzels, and tortilla chips.  
[www.herrs.com/SnackFactoryTours/VirtualTours.html](http://www.herrs.com/SnackFactoryTours/VirtualTours.html)

**Soda crackers, apple pie, goat cheese, lasagna, veggie burgers, and more**  

**Beef Jerky Tech:** Drying meats and other perishables has been a reliable method of food preservation for decades.  

## Challenge 11: Try ME!

**Grocery stores frequently get new products from their suppliers. These products can come from other markets (such as international markets), or they can be brand new to the market.**

**Challenge:** Try five new foods or food products next time you go to the grocery store and write in your food journal about them.

- What did you try and why?
- Did it remind you of any food you have tried before?
- What did it smell and taste like?
- Would you buy it again?
**Explore more!** Always keep an eye out for new products and foods at your grocery store. Make it a habit to try at least one new food every month. That new food may eventually become a family favorite.

Ethnic markets are a great way to try new foods. There are many places to visit throughout the St. Louis area or in your neighborhood. Want your family to experience new cultures through food? Make the trip an adventure! Let kids pick out a few things they want to try and then invite them to help you prepare it. Below are a few representative grocery stores to check out:

<table>
<thead>
<tr>
<th>Little Bit of Everything</th>
<th>Asian Markets</th>
<th>Italian Markets</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Global Foods Market</strong></td>
<td><strong>Asian Market Inc.</strong></td>
<td><strong>DiGregorio’s Market</strong></td>
</tr>
<tr>
<td>421 North Kirkwood Rd.</td>
<td>1243 Castillons</td>
<td>5200 Daggett Ave.</td>
</tr>
<tr>
<td>St. Louis, MO, 63122</td>
<td>Arcades Plaza</td>
<td>St. Louis, MO 63110</td>
</tr>
<tr>
<td>(314) 835-1112 or <a href="http://www.globalfoodsmarket.com">www.globalfoodsmarket.com</a></td>
<td>St. Louis, MO 63141</td>
<td>(314) 776-1062 or <a href="http://www.digregoriofoods.com">www.digregoriofoods.com</a></td>
</tr>
<tr>
<td><strong>World Wide International Food Market</strong></td>
<td>Olive Supermarket</td>
<td><strong>John Viviano &amp; Sons Grocery Store</strong></td>
</tr>
<tr>
<td>7238 N. Lindberg Blvd.</td>
<td>8041 Olive Blvd.</td>
<td>5139 Shaw Ave.</td>
</tr>
<tr>
<td>Hazelwood, MO 63042</td>
<td>St. Louis, MO 63130</td>
<td>St. Louis, MO 63110</td>
</tr>
<tr>
<td>(314) 997-5168</td>
<td>(314) 997-5168</td>
<td>(314) 771-5476 or <a href="http://www.shopviviano.com">www.shopviviano.com</a></td>
</tr>
<tr>
<td><strong>Jay International Food Co.</strong></td>
<td><strong>Seema Grocery</strong></td>
<td></td>
</tr>
<tr>
<td>3172 S. Grand Blvd.</td>
<td>14242 Manchester Rd.</td>
<td></td>
</tr>
<tr>
<td>St. Louis, MO 63118</td>
<td>St. Louis, MO 63011</td>
<td></td>
</tr>
<tr>
<td>(314) 772-2552</td>
<td>(636) 391-5914</td>
<td></td>
</tr>
<tr>
<td><strong>African Markets</strong></td>
<td><strong>World Wide International Foods and African Market</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Asian Market Inc.</strong></td>
<td>8430 Olive Blvd.</td>
<td>8430 Olive Blvd.</td>
</tr>
<tr>
<td>Arcades Plaza</td>
<td>St. Louis, MO 63132</td>
<td>St. Louis, MO 63132</td>
</tr>
<tr>
<td>St. Louis, MO 63141</td>
<td>(314) 994-0229</td>
<td>(314) 994-0229</td>
</tr>
<tr>
<td>(314) 434-1308</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There are many international markets in the area, representing different nationalities. For a complete list, visit:

- www.slu.edu/x31562.xml

**Sources:**

For most of us, shopping for food begins and ends at a large grocery store. It seems like there are many different kinds of stores: discount stores, gigantic all-in-one stores, the regular grocery store, and of course, organic and specialty stores. On the surface, they all appear different from one another in their offerings, but the way we interact with the food they carry is pretty similar. At any one of these places, a typical trip involves pushing a cart down aisle after aisle until it is full of packages containing “food,” checking out at the register, bagging it all up, and going home. This ubiquitous scene from our lives has steadily increased since the 1950s, and it has left us disconnected, unfamiliar, and complacent with the food we choose to buy and eat. This section will challenge you to learn who is growing and/or raising your food, how it is done, and what the raw products look like. It will also encourage you to reduce your food spending and food waste with a memorable opportunity to live life in someone else’s shoes. The following challenges will encourage you to buy food differently.

**Challenge 12: Farm Fresh**

How connected are you to the food you eat? Have you ever picked up a package of food, found you had no idea how to read any of the ingredients listed, and put it in your cart anyway? You are not alone. Most of us rely on highly processed, ready-to-go foods because our busy schedules get in the way of meal preparation. As such, the processed food craze has created a wide gap between us and the origins of our food. For example, we have become accustomed to the unblemished, shiny, round apples in the produce section. But these seemingly perfect apples will never compare to the crisp crunch of a sweet and juicy, fresh-off-the-tree apple on a breezy fall afternoon.

**Challenge:** Take an outing to a local farm of your choice and interact with your food in its raw state before buying it. There are many different types of farms around the area—a few of the possibilities are listed below. Take a journal or notebook with you and answer the following questions:

1. Do animals live on this farm? If so, which animals? What types of food do we get from them?

2. List any of the animals you were able to pet or feed.

3. What types of edible plants are growing on this farm? How many of them have you tried before today?

4. Were you able to pick and take anything home to eat? If so, did you make a special dish or eat it raw?

5. If you ate food purchased from the farm, how did it taste in comparison to the type of food you normally buy at the store?

6. Did you notice a cost difference between food from the farm and the price of that same food at your normal grocery store? Which costs more and why?
St. Louis-area farms to visit:

- Thies Farm and Greenhouses, www.thiesfarm.com
- Eckert's Orchards, www.eckerts.com
- Grant's Farm, www.grantsfarm.com
- Directory of Pick-Your-Own Farms around the country, www.pickyourown.org
- Check out Missouri Harvest by Maddie Earnest and Liz Fathman for individual profiles of farms around the state, including which ones welcome visitors.

Challenge 13: Sensibly Seasonal

Now that you are more connected to the origins of your food, let’s talk seasonality. With the increased availability of farmers’ markets, you can get all of the advantages of farm fresh produce without venturing into the country. At the market, the food producers are available to answer questions. You are encouraged to taste before buying, and in most cases, it costs less. However, seasonality will play an important factor in the cost savings. As the seasons change, so do the growing conditions, causing specific fruits and vegetables to be more abundant during each season. When these fruits and vegetables are “in season,” not only do they cost less but they also taste better and are healthier for you.

Challenge: Visit your local farmers’ market and buy seasonally fresh produce. Before you visit, use the links below to learn what foods are produced in your area and during what seasons. Then, make a list and enjoy the shopping experience. Take it a step further and compare the cost of those foods at your regular grocery store. To really learn the effects of seasonality, compare the cost of those same foods a few months later when they are no longer in season.

Learn About Seasonality:
Midwest Seasonal Foods by Month, madebysa.com/food/Illinois (and Missouri) Seasonal Food Chart, www.agr.state.il.us/markets/WhatsInSeason.pdf

Find a Farmer’s Market:
Missouri Farmer’s Market Directory, agebb.missouri.edu/fmktdir

Challenge 14: Slash Your Food Spending

After spending time learning about the cost savings of seasonal eating, you are becoming more aware of how you spend your food dollars. Living in the United States has many advantages including the relatively low cost of food. Compared to other countries, Americans spend less than 10% of their annual income on food. Despite this fact, the cost of food has steadily increased over the past decade, and many families have been forced to drastically cut their food budgets.

Challenge: Choose any of the following to incorporate into your lifestyle in order to slash your food spending. Incorporate them one at a time to ensure your success.

- Create a menu and shopping list for each day of the week.
- Replace two fast food meals each week with a meal prepared at home.
- Try the store brands of your five most widely used items. If you can’t tell the difference, continue to purchase and pocket the savings.
• Eat a meatless meal once a week.
• Buy items only from the clearance/sale section and create one entire meal.
• Shop for seasonal items at the farmers’ market once a week.
• Buy staple items from the bulk bin instead of small packages on the shelf. (Note: You can still buy just the amount you need, but the price per pound will be significantly less.)
• Bring a lunch to work/school instead of eating out or buying from the cafeteria.

Budget Saving Resources:

Challenge 15: Thrifty Food Plan

There is no denying the increased demand for food stamp benefits in recent years. But, what if you had to live by the USDA's Thrifty Food Plan—the basis for food stamp benefits? The USDA breaks down the average cost of healthful food cooked at home into four levels. There is a thrifty plan, a low-cost plan, a moderate-cost plan, and a liberal plan. None of these plans include the cost of eating out. For example, a family of four following the thrifty plan would have about $550 each month to spend on food. While many of us live in a world of plenty, there are many others who must go without each and every day.

Challenge: Explore the USDA’s website and challenge yourself to live one week in another’s shoes by using the Thrifty Food Plan. Use your journal to record how this experience affected you and your family’s lives. www.cnpp.usda.gov/Publications/FoodPlans/2012/CostofFoodJun2012.pdf

Questions:
1. How much does your family usually spend on food each week?
2. How did you prepare to follow the thrifty food plan?
3. How did your shopping habits change?
4. How did your eating habits change?
5. Could you afford to eat out? If so, how much did you spend and where?
6. What other challenges, if any, did you face?
Did you know that four out of four people eat? Eating is so basic to our existence that we often don’t think too much about it. Busy, hectic schedules and the comfort of familiarity often lead us into the trap of eating the same foods over and over again without realizing it. The following challenges were designed to get you thinking more about the food choices that you make. The goal is to think about food in the context of variety, color, and family togetherness rather than as just “healthy” or “unhealthy.” Good luck exploring your food in a new and exciting way, and most importantly, have FUN!

**Challenge 16: Eat the Alphabet**

There are many fruits and vegetables throughout the world. However, we tend to eat the same ones again and again. The grocery store you frequent probably has many foods you’ve never tried. According to the USDA, half of our plates should be filled with fruits and vegetables. The challenge below is about adding more fruits and vegetables to our plates in a fun and adventurous way.

**Challenge:** Eat a fruit or vegetable that you have never eaten before that starts with the letter of your first name.

- For younger participants, this challenge can serve as a way to learn the alphabet as well as their names.
- For elementary school participants and older, this challenge can be made more difficult by choosing a letter of their name that is not as common. For example, if a child's name is Sarah Elizabeth, “S” may be too popular a letter. Choosing a fruit or vegetable with the letter “Z” may be more of a challenge.

**Explore More:** To learn more about fruits and vegetables and how to add them your plate visit the USDA website at: [www.choosemyplate.gov/food-groups](http://www.choosemyplate.gov/food-groups)

**Challenge 17: Eat the Rainbow**

We eat with more than our mouths; we eat with our eyes too. We all know that fruits and vegetables are good for us, but in reality, it is not the fruit and vegetables themselves but rather the vitamins and minerals they contain. Vitamins and minerals are found in varying amounts in various types of food. While we cannot necessarily see the vitamins and minerals themselves, we can identify which vitamins a food contains based on its color. For example, vegetables that are orange, such as carrots, are high in beta carotene. Beta carotene is a precursor to vitamin A, which is good for the skin and eye sight. By eating the colors of the rainbow, you are eating a variety of vitamins and minerals that help your body in many ways.

ROY G BIV is the acronym that not only can help us remember the order of colors in a rainbow but also remind us of the colors of fruits and vegetables that should paint our plates. Below are some foods that are found in red, orange, yellow, green, blue, indigo, and violet.
**Challenge:** Eat at least one fruit and one vegetable of different colors that represent the colors found in the rainbow.

<table>
<thead>
<tr>
<th>Red</th>
<th>Orange</th>
<th>Yellow</th>
<th>Green</th>
<th>Blue/Indigo</th>
<th>Violet</th>
</tr>
</thead>
<tbody>
<tr>
<td>tomatoes</td>
<td>yams</td>
<td>bananas</td>
<td>green grapes</td>
<td>blueberries</td>
<td>purple grapes</td>
</tr>
<tr>
<td>red peppers</td>
<td>carrots</td>
<td>peaches</td>
<td>kiwi</td>
<td>blue cauliflower</td>
<td>purple/red onion</td>
</tr>
<tr>
<td>radishes</td>
<td>peaches</td>
<td>pineapple</td>
<td>artichokes</td>
<td>blackberries</td>
<td>eggplant</td>
</tr>
<tr>
<td>cherries</td>
<td>mangos</td>
<td>yellow peppers</td>
<td>asparagus</td>
<td>black cherries</td>
<td>purple pepper</td>
</tr>
<tr>
<td>cranberries</td>
<td>butternut squash</td>
<td>yellow tomatoes</td>
<td>broccoli</td>
<td>blue potatoes</td>
<td></td>
</tr>
<tr>
<td>watermelons</td>
<td>pumpkin</td>
<td>lemons</td>
<td>limes</td>
<td>raisins</td>
<td></td>
</tr>
<tr>
<td>raspberries</td>
<td>papaya</td>
<td>spaghetti squash</td>
<td>zucchini</td>
<td>plums</td>
<td></td>
</tr>
<tr>
<td>rhubarb</td>
<td></td>
<td></td>
<td>green onions</td>
<td>purple carrots</td>
<td></td>
</tr>
<tr>
<td>strawberries</td>
<td></td>
<td></td>
<td>peas</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Explore More:** To learn more about the vitamins and minerals found in your food and what role they play in your health visit the Academy of Nutrition and Dietetics website: www.eatright.org/Public/content.aspx?id=5554

**Challenge 18: Family Favorites**  
Date Accomplished:_______________

Mealtimes aren’t always about being healthy. While it is ideal to eat a healthful diet, all foods fit, meaning there is always room for our high-fat, high-calorie, or high-sugar favorites if consumed in moderation. Often our favorite foods not only taste good but also invoke an emotional response or memory. A lot of times these memories are related to our family. For instance, does your family have a recipe that has been passed down from generation to generation? Does your family simply have a specific meal that is so loved that everyone stops what they are doing to eat together? The favorite dish is not only loved because it tastes good, but it is also cherished for the memories of the people who prepared it or partook in the meal in times past. Maybe the recipe holds special meaning because the loved one who used to make it has passed on, or maybe it is loved because it is usually made only once a year, such as a birthday, Thanksgiving, or other important holidays.

**Challenge:** As a family, prepare the family’s favorite dish. When cooking or sharing the meal, talk about why each member of the family likes the dish. Ask yourselves: What importance does this meal hold? Discuss the family history behind the recipe.

**Explore More:** The Missouri Botanical Garden is currently asking the public for their food stories. It could be as simple as a photo with just one or two descriptive sentences. Your photo and story could be featured in an exhibit at the Garden or on the Garden’s Flicker page and YouTube channel. Sharing your food story is an exciting way to share your family’s traditions, tips, and experiences with others.

*For more info on how to submit your food story, visit www.mobot.org/foodology*
You can also submit your food story by visiting the Brookings Interpretive Center at the Garden and draw/write your food story at the “What St. Louis Eats” wall. Make another visit to the Garden to see if your food story was chosen to be displayed at the exhibit. Visit www.mobot.org for more information regarding hours of operation, ticket prices, free admission days and times, and other Garden events and exhibits.

吃饱了

**Challenge 19: How Does Your Plate Stack Up?**

In recent years, the food guide pyramid has seen some changes. Instead of using a pyramid to represent the amount of food from each food group we should consume throughout the day, the USDA now uses a plate. While the number of servings from each food group has not changed, the way it is represented has. Comparing your plate to MyPlate is now easier than ever before. What exactly should your plate look like? What food groups encompass all of the food groups on a well-rounded plate? Fruits, vegetables, grains, protein, and dairy should all be represented.

- Fruits and vegetables should be varied and full of color, and combined, they should represent 50% of your plate.
- Grains should comprise 25% of your plate. While half of your grains are allowed to be refined, such as white bread, you are encouraged to consume 50% or more of your daily grain allowance from whole grain foods, such as whole wheat bread, oatmeal, and quinoa.
- Protein-rich foods should make up the last 25% of your plate. In the United States, getting enough protein in your diet is usually not a problem. In fact, most people consume more protein than they need throughout the day. However, the goal of your protein intake should be to consume lean protein foods, such as lean cuts of meats.
- Dairy is the final major food group that should be accounted for in your meal. While the exact number of dairy servings needed per day varies depending on your age, it is easy to incorporate dairy into your diet. The dairy group is represented by milk, yogurt, calcium-fortified soymilk, and cheese just to name a few.
- The oil or fat group should be used sparingly throughout the day as an accompaniment to your other food. For example, olive oil could be used to sauté vegetables, or margarine could be used on a piece of toast.

**Challenge:** Today, eat according to the MyPlate guidelines, making sure to consume the recommended number of each food group throughout the day. Then discuss: Was it easy to eat that many servings of fruit, vegetables, grains/whole grains, protein, dairy, and oil/fats? Why or why not?

**Explore More:** Learn more about MyPlate and different food groups at www.choosemyplate.gov/food-groups

**Challenge 20: Cooking in the Great Outdoors**

After being cooped up in the house all winter, it is nice to spend time in the great outdoors with the fresh air and under the warm rays of the sun. While it is always fun to eat outside, either at your home or on a picnic, cooking outside also can be fun and healthy. Grilling can even provide a unique depth of flavor to your favorite foods. Grilling hamburgers, hotdogs, chicken, brats, and pork steaks immediately comes to mind when thinking about how to cook outside. While those certainly are good options and possess all of the characteristic flavors, smells, and visions of summer, there are other types of food that can be grilled as well including fruits and vegetables.
• Fruits such as pineapple and banana are great to grill. The heat from the grilling process warms the fruit as it cooks, causing the natural sugars of the fruit to caramelize and impart a pronounced flavor. These fruits become so sweet, in fact, that they can be eaten for dessert. To grill a pineapple simply place pineapple rings or spears on the grill and remove once warmed through or when grill marks appear. When grilling a banana place a whole unpeeled banana on the grill and cook for five minutes or until the skin starts to pull away, turning the banana occasionally. The skin will turn from yellow to black, but the inside will become sweet and caramelized.

• Vegetables are another type of food that can be grilled. Most people have grilled potatoes, but what about other seasonal summer favorites such as zucchini, squash, peppers, corn on the cob, and asparagus? Baskets for grilling vegetables are available for purchase, but the use of aluminum foil is just as good—it’s cheaper and easy to use.

Eating the meal outside after cooking it is just as fun. It serves as a way for the family to share a meal together without the distraction of phones, computers, and televisions. Since the family is already outside, you may also be more likely to take a family walk or hike or play a game of kickball, tag, or throw a ball around after the meal.

**Challenge:** Cook and eat at least one of your meals outside.

Where did you have your family picnic? What did you eat? How did you prepare it? Did you try something new?

**Explore More:** There are a variety of online resources for grilling tips, instructions, and recipes. Type “vegetable grilling” or “grilling packets” in your favorite search engine and explore.
In previous sections we have explored how food gets from field to fork. Food is key to the wellness of individuals, families, and communities. Their health is intertwined, with each component’s successes and losses affecting the others. Health and wellness are certainly about the food we choose to eat, but they are also about how much physical activity we engage in. The challenges below still incorporate some elements of food, but they are broadened to include a bit of physical activity as well. No matter what your age is, it is never too late to incorporate healthy habits into your life. These challenges can help you and your family create good life-long habits. When meeting the challenges below, consider how you may be a role model for other family members, other families, and your community. Be a positive force in your own health, your family’s, and your community’s!

**Challenge 21: Meander to a Meal**

Sometimes a change of eating venue is just the ticket to get kids to try new foods. Why not combine a little physical activity with some great picnic foods for a fun family outing? Part of a healthy lifestyle includes being physically active every day and eating right. What better way to combine the two than walking to a great picnic spot!

**Challenge:** Pack up a picnic lunch and a big blanket and walk at least 15 minutes to get to your picnic spot. Check out some great, family-friendly food ideas in the “Picnic Picks” section below. Be sure to keep food safety in mind when packing. Choose your picnic place from the list below or head to an existing favorite spot. Be sure that you walk at least 15 minutes to find the perfect place!

**Picnic Picks:**

- Spread peanut butter on a wheat tortilla, add some sliced banana, and roll up. For an extra pick-me-up, sprinkle some chia seeds (a botanical superfood!) on top of the peanut butter.
- For a quick whole grain pasta or whole grain salad, take your favorite cold, cooked grain or pasta, add some fresh veggies, and toss with a vinaigrette-style dressing. Add some cubed cheese or deli meat for a complete meal. Use fun shaped pastas or try a new grain like quinoa. Experiment with different veggies and dressings.
- Spread your favorite herbed cream cheese (or plain) on a whole wheat tortilla or wrap bread; add some deli turkey, baby spinach leaves, tomato slices, and whatever other veggies you like; and roll up.
- Create your own snack mix. Set out different bowls of whole grain cereals, dried fruit (dried berries are really good), and nuts. Let your kids design their own custom snack mix.

**Picnic Places:**

- **Art Hill in Forest Park** With all that lawn space, how can you not spread out a blanket and enjoy the day? This is also a great place to fly a kite!
- **Tower Grove Park**, just down the street from the Garden.
- **Bee Tree Park** at 2701 Finestown Rd., St. Louis, MO 63129
Castlewood State Park in southwestern St. Louis County, just northwest of Highway 44 and Route 141.

Creve Coeur Park at 13725 Marine Dr., Creve Coeur, MO 63146

Faust Park – 15193 Olive Blvd., Chesterfield, MO 63107. Don’t forget to explore the Sophia M. Sachs Butterfly House while you are there.

Shaw Nature Reserve at Highway 44 and Route 100 in Gray Summit MO 63039. Explore acres of woodlands, wetlands, and prairies.

Whitaker Music Festival at the Garden—enjoy free admission, awesome music, and a Wednesday evenings every summer! Check out the musical line-up at www.mobot.org/whitaker

Explore More:

Find a Missouri State Park close to you at www.mostateparks.com

Find a St. Louis County Park close to you at www.stlouisco.com/ParksandRecreation/ParkPages

For tips on safe picnic eating visit: www.eatright.org/Public/content.aspx?id=5957

For some more picnic recipe ideas visit:

Better Homes & Gardens: www.bhg.com/recipes/party/seasonal/healthy-picnic-recipes/

Allrecipes: allrecipes.com/recipes/everyday-cooking/on-the-go/picnic-recipes/

Cooking Light: www.cookinglight.com/food/top-rated-recipes/five-star-picnic-recipes-00400000044054/

Eating Well: www.eatingwell.com/recipes_menus/recipe_slideshows/summer_bbq_picnic_foods_made_healthier

Challenge 22: Stop-Light Your Snacks Date Accomplished:_______________

All foods can fit! But there are some foods that probably should be eaten less often than others. There are “anytime foods,” “sometimes foods,” and “treat foods.” Understanding which foods fall into each category is a life skill that needs to be learned. Helping family members figure out what category different foods fit into helps each person make an informed decision about his or her food choices. Remember, every food can fit somewhere into your life!

Challenge: Create a traffic-light system for your snacks. Whether you keep snack foods in your pantry or in your fridge, you can use this system to learn about what category different snacks fit into. Use three bins that fit into your pantry or your fridge. Color or label one as “Red Light,” one as “Yellow Light,” and one as “Green Light.”

Green bin – should be placed in the easiest place to see and access.

Yellow bin – should be placed in an area where it is a little harder to see and to reach.

Red bin – should be placed in an area where it is the hardest to see and reach.

Involve the entire family in setting up the bins—decorate the bins and make family decisions about which foods should be placed where. To get you started, see the chart on the next page.
Explore More: For tips on some smart supermarket snacks, take a look at www.webmd.com/food-recipes/features/the-best-healthy-snacks-in-your-supermarket

How to make your own microwave popcorn. Combine ½ cup of popcorn, 1 teaspoon of canola oil, ¼ teaspoon of salt along with any of your favorite herbs or spices in a bowl. Pour into a brown, paper lunch bag. Fold the bag 2-3 times to seal. Microwave at full power for 2 ½ - 3 minutes, or until there is about a 2-second pause between pops. Carefully open the bag, and watch out for hot steam!

For more information on the importance of healthy snacking, to get some great snack ideas, or to look up tip sheets on topics ranging from kid-friendly healthy snacks to incorporating more fruits and vegetables into your meals visit these websites:

www.kidshealth.org/teen/food_fitness/nutrition/healthy_snacks.html
www.eatright.org/nnm/handoutsandtipsheets

Challenge 23: Connect with Your Community  Date Accomplished:_____________

Individuals, families, and communities are all intertwined. When you do something good for someone, that goodwill in turn affects that person’s family and the community that person lives in as well. Likewise, when you do something good for a community, that goodwill trickles down to the individuals and families who live there. Nearly ¼ of the children living in the 26-county region served by the St. Louis Area Foodbank experience “food insecurity,” otherwise known as hunger. Hunger happens when someone does not have access to enough food to live a healthy, active life. You can make a difference in the lives of those experiencing hunger.

Challenge: Connect with your community by helping others meet their food needs. Select one of the suggestions below or take a look at your own community and contribute to the food security of others where you see a need. This is your chance to make a difference where you live!

- Collect food from your pantry and your neighbors’ pantries and donate it to a food pantry.
- Volunteer to help out at a local soup kitchen.

Experience Savor Your Summer at the Missouri Botanical Garden this summer. On Thursdays, bring non-perishable, unexpired food to donate to the St. Louis Area Foodbank and get free admission to the Garden. For more details, visit www.mobot.org/savor.

Green bins should contain the “anytime foods” like:
- Fresh ready-to-eat fruits and vegetables
- Dried fruits, like raisins, dried apricots, dried figs, and prunes
- Whole grain crackers
- Skim milk
- Popcorn (fat-free or light-butter) see recipe below

Yellow bins should contain the “sometimes foods” like:
- Low-fat cheese sticks
- 100% fruit juice boxes
- Low-sugar granola bars
- Graham crackers
- Unsalted or low-salt nuts
- Dark chocolate

Red bins should contain “treat foods” like:
- Baked chips
- Cookies
- Milk chocolate
Explore More: Other resources to help those in your community:

- The St. Louis Area Foodbank helps out many local food pantries and soup kitchens. Find out more about them and what you can do to help at www.stlfoodbank.org
- Operation Food Search helps feed St. Louisans and is active in Operation BackPack, a program that helps feed food-insecure children and their families. Find out more at www.operationfoodsearch.org
- Meals on Wheels brings food to our elderly neighbors who might have difficulty preparing or obtaining food on their own. Find out more at www.mowstl.org
- Check out this link to find information on local food pantries, food banks, and soup kitchens www.homelesshelterdirectory.org

Challenge 24: Turn off the Tube

Date Accomplished: _______________

One of the best things about being a kid is playtime—that time you can spend just being free and enjoying the world. Unfortunately, now more than ever, families are spending sedentary time in front of screens—televisions, video games, computers, and mobile devices. A healthy lifestyle includes not only eating well but also being physically active and socializing with loved ones. Playing together can strengthen family ties and contribute to family health. So, turn off those screens, get active, and recapture the joy of play!

Challenge: Take a family pledge to turn off the television, computers, video games, and cell phones after dinner every night for one week. You can do it! Spend some time together as a family and choose activities that get everyone involved. Here are some suggestions for what to do with your family after dinner time:

- Take a family walk or bike ride.
- Go on a bug safari. Get an old, clean jar and see how many insects you can catch and add to the jar. Look for lightning bugs, lady bugs, crickets, grasshoppers, caterpillars, and walking sticks. See how many different kinds you can collect. Be sure to free them back to their natural habitat when you’re done.
- Go on a nature treasure hunt. Go to the library to check out a field guide to birds, trees, or flowers—pick your favorite topic. See how many birds, trees, or flowers you can identify in your neighborhood.
- Play tag, hide-and-go-seek, or charades.
- Plan out an obstacle course and see how quickly each person can get through the course. Then see if you can beat your personal best time. An obstacle course can contain a variety of tasks, with stations including activities like hopping on one foot 10 times, jumping jacks, building a tower of blocks, tossing a ball into a bag, or even answering pop quiz questions about food! You can do this inside or outside. Be creative with your stations!

Explore More: The National Wildlife Federation sponsors the Green Hour, an initiative aimed at getting families to spend more time outside with each other. Get more information and ideas at www.nwf.org/Be-Out-There/Why-Be-Out-There/What-is-a-Green-Hour.aspx
National Screen-Free Week happens during the month of April. You can use the resources and information at any time, though. Check out more information at www.healthymeals.nal.usda.gov/features-month/april/national-screen-free-week

Find out more about insects to collect at www.insectidentification.org. Or identify your finds using a book from the library such as The Illustrated World Encyclopedia of Insects: A Natural History and Identification Guide to Beetles, Flies, Bees, Wasps, Mayflies, Dragonflies, Cockroaches, Mantids, Earwigs, Ants and Many More by Martin Walters.

Some books that you can get from your local library filled with ideas for what to do. Two to try include Unbored: The Essential Field Guide to Serious Fun by Chris Piascik, or Unplugged Play: No Batteries. No Plugs. Pure Fun. by Bobbi Conner. Check out your local library for more idea-filled books!

**Challenge 25: Family Food Journal**

Eating is a wonderful part of our daily lives, but do you really know how much you eat every day? Studies have shown that people tend to eat a lot more than what they think they eat. The brain can be fooled by the size of the plate on which the meal is served. If you were to serve the same amount of food on a salad plate and on a dinner plate, the meal on the salad plate would appear to be much larger. The brain also doesn’t register how much we eat when we are distracted by other things, such as conversation or the television. We tend to eat more when we do not focus on the activity of eating. This challenge is designed to bring awareness to your daily habits. Now is the time to focus on the present moment and savor the act and enjoyment of eating.

**Challenge:** Create a food journal and record everything you eat over the course of a weekend. You can create one family journal, or each member of your family can create their own journal. When the weekend has ended, what did you discover? Did you eat more or less than you thought?

Follow these steps:

1. Create your journal. You can create your journal on the computer and print it out, or you can create a journal from a notebook. This is your chance to get creative. Decorate your journal to make it truly your own.

2. On the pages of your journal, identify the days you will track your food. You should have a place to write down what you ate and what category of food it falls into. At the end of each day, total the number of servings of food you ate in each category. Come up with your own system or copy the sample below.

3. Review what you actually ate. Were you surprised by what you wrote down? Did you stop to think about what you were about to eat, knowing you would need to write it down? Did you become more aware of what you ate?

**Explore More:** Check out this book for more information on how our brains can fool us when it comes to food: Mindless Eating: Why We Eat More than We Think by Brian Wansink.

If you are interested in continuing your food journal and expanding upon it, check out this link from the Cleveland Clinic for some ideas: my.clevelandclinic.org/healthy_living/weight_control/hic_keep_a_food_journal.aspx

Or, use SuperTracker, a free, online resource from the USDA that allows you to keep track of what you eat and how much physical activity you get: www.supertracker.usda.gov/default.aspx. As a bonus, this resource will tell you what nutrients you have been eating!
### Challenge 26: Scavenger Hunt

Did you know that there are over 20,000 species of plants worldwide that are edible? That is a lot to choose from. The Missouri Botanical Garden is home to a fascinating collection of plants, many of which are edible. Edible plants can be found all over the Garden in almost every area.

**Challenge:** Go on a recipe scavenger hunt in the Garden! Take a family-favorite recipe and see how many ingredients you can find in the Garden. Or, see if you can find all of the ingredients listed in any of the recipes below and on the back. Good luck!!

<table>
<thead>
<tr>
<th>Recipe</th>
<th>Ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Red Cabbage Slaw</strong>*</td>
<td>½ cup apple cider vinegar, 2 tablespoons sugar, ¼ cup extra-virgin olive oil, 2 teaspoons celery seed, salt and ground black pepper, ½ head red cabbage, cut into roughly 1 ½-inch chunks, 2 small carrots, grated, 1 small red onion, chopped, 1 cup golden raisins. <strong>Directions:</strong> Mix, refrigerate for 1 hour and enjoy!</td>
</tr>
<tr>
<td><strong>Tomato Salsa:</strong></td>
<td>3 cups diced tomatoes, ½ cup diced white onion, ½ cup cilantro leaves, 2 minced jalapeño peppers (or to taste), juice of 1 lime, salt to taste. <strong>Directions:</strong> Mix and enjoy!</td>
</tr>
<tr>
<td><strong>Rose Hip Iced Tea</strong></td>
<td>¼ cup dried rose hips, 2 Tbsp dried hibiscus flowers, 3-inch piece of orange zest (no pith), ½ gallon of hot black tea. <strong>Directions:</strong> In large pot combine the rose hips, dried hibiscus flowers, and orange zest. Pour the black tea over the top and allow to steep for 1 hour. Strain, sweeten as desired, and serve over ice.</td>
</tr>
</tbody>
</table>

---

**THANK YOU FOR PARTICIPATING IN THE FAMILY FOOD CHALLENGE OF 2013!**

**Dig into the Challenge!**

By completing at least 15 of the 26 Foodology challenges and submitting food stories with us, you’ll be automatically entered into a drawing to receive a complimentary Foodology basket of tasty local treats, coupons, recipes, and more.

To be entered into this drawing, please complete the following information:

**Name:**

**Number of participants in the Family Food Challenge:** 

**E-mail:** ________________________________________________________________________  **Contact phone number:** __________________________

**Mailing address:** _______________________________________________________________________________

**City:** __________________________ **State:** _______ **Zip:** __________________________

Drop off this entry form at the Garden’s Brookings Interpretive Center before November 4, 2013 and receive a Foodology Family Food Challenge prize pack, while supplies last. Regular Garden admission rates apply.
### Challenge 26: Scavenger Hunt (continued)

<table>
<thead>
<tr>
<th>Chocolate Honey Spread</th>
<th>Herbes de Provence Rub for Roast Chicken†</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 cup of chocolate chips</td>
<td>3 Tbsp dried tarragon</td>
</tr>
<tr>
<td>1 cup of honey</td>
<td>1 ½ Tbsp dried savory</td>
</tr>
<tr>
<td><strong>Directions:</strong> Melt ingredients together for a different dessert sauce! Drizzle over ice cream or graham crackers.</td>
<td>1 Tbsp dried sage</td>
</tr>
<tr>
<td></td>
<td>1 Tbsp dried thyme</td>
</tr>
<tr>
<td></td>
<td>1 Tbsp dried lavender buds</td>
</tr>
<tr>
<td></td>
<td>1 Tbsp dried marjoram.</td>
</tr>
<tr>
<td></td>
<td><strong>Directions:</strong> Mix ingredients and thoroughly apply to chicken before cooking.</td>
</tr>
</tbody>
</table>


**Recipe adapted from [www.alleghenycounty.us/parks/gardens/edibles/2009recipes.pdf](http://www.alleghenycounty.us/parks/gardens/edibles/2009recipes.pdf)*

†Recipe adapted from [www.saveur.com/article/Recipes/Herbes-de-Provence](http://www.saveur.com/article/Recipes/Herbes-de-Provence)

---

**Explore More:** For information on wild edible plants of Missouri, check out the Missouri Department of Conservation website [www.mdc.mo.gov/discover-nature/how/cooking/wild-edibles-missouri](http://www.mdc.mo.gov/discover-nature/how/cooking/wild-edibles-missouri)

For ideas of what edibles to plant in your garden, visit the Garden’s Kemper Center for Home Gardening or [www.mobot.org](http://www.mobot.org).

---

**Thank you for participating in the Family Food Challenge of 2013!**

Your feedback is important to us! Please share your thoughts about this challenge below:

______________________________________________________________________________________________
______________________________________________________________________________________________
______________________________________________________________________________________________
______________________________________________________________________________________________
______________________________________________________________________________________________
______________________________________________________________________________________________
______________________________________________________________________________________________