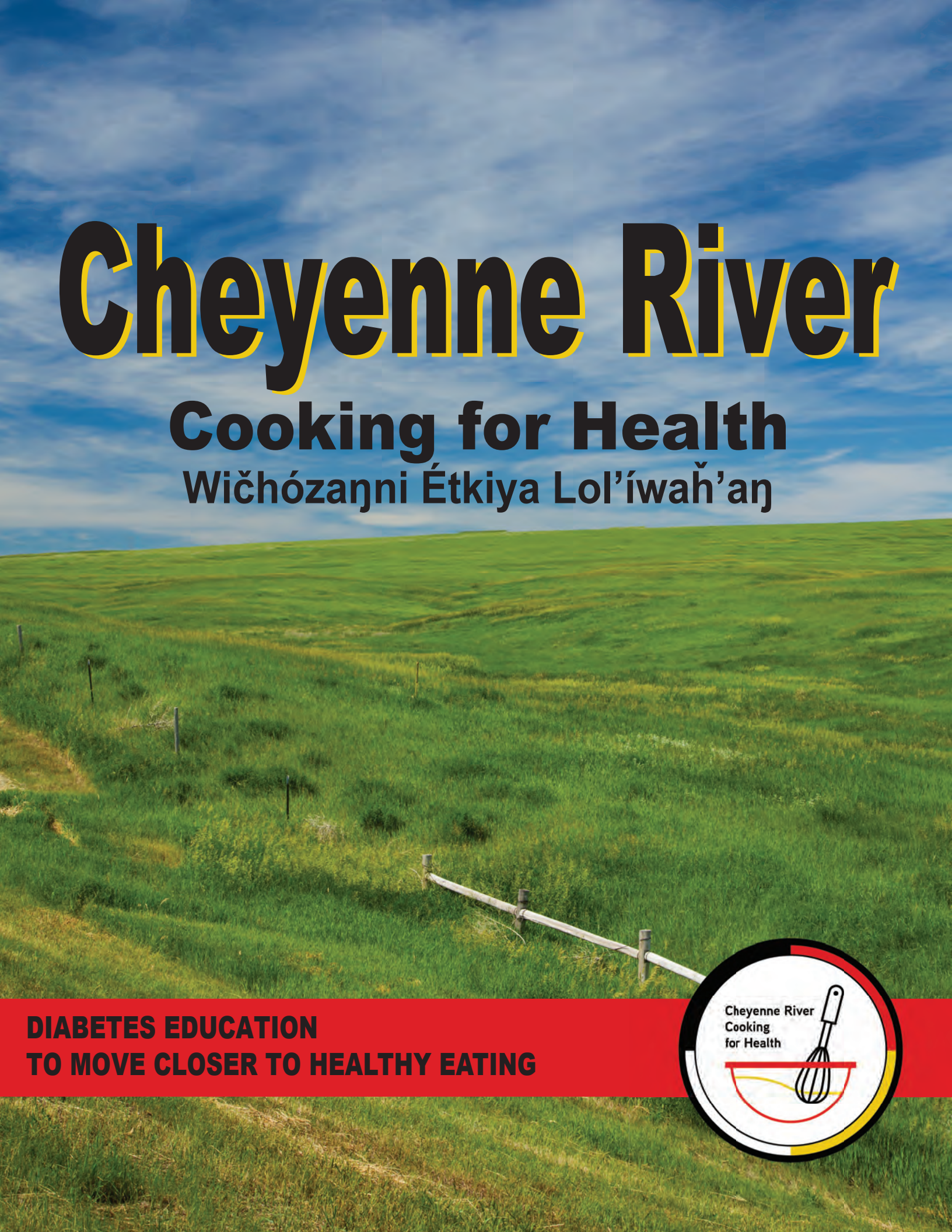
Cheyenne River

Cooking for Health

Wičhózaŋni Étkiya Lol'íwaȟ'aŋ



DIABETES EDUCATION
TO MOVE CLOSER TO HEALTHY EATING

Cheyenne River
Cooking
for Health

Welcome (Taŋyáŋ yahí) to the *Cheyenne River Cooking for Health (Wičhózaŋni Étkiya Lol'íwaȟ'aŋ) Curriculum.*

Eating healthy foods is a cornerstone of diabetes management. The 12 lessons in this book will show you new ways to choose and prepare healthy foods—while staying within your food budget. We encourage you to apply what you learn as you shop for food and cook at home. The goal of the lessons is to give you the tools that you need to move closer to your healthy eating, cooking, and food budgeting goals, and improve blood sugar levels.

Development and Testing of the Curriculum

This curriculum was developed and tested through a partnership between the University of Washington and Missouri Breaks Industries Research, Inc. (MBIRI) with the Cheyenne River Sioux Tribe (CRST) Lakota community in South Dakota.

Focus Groups:

In 2018-2019, 17 adult tribal members with diabetes participated in focus groups to provide feedback used to adapt the Cooking Matters® nutrition intervention for a Lakota population. The focus groups resulted in the following adaptations that led to the Cooking for Health curriculum.

1) Include traditional Lakota foods and locally available foods
2) Focus on a healthy diet for the entire family, including multiple generations
3) Visuals are preferred more than text

Brown M, et al. Adapting a cooking, food budgeting and nutrition intervention for a rural community of American Indians with type 2 diabetes in the North-Central United States. *Health Educ Res*. 2023; 38(1):13-27

Randomized Controlled Trial:

In 2020-2022, 176 adult tribal members with diabetes participated in a study to test the effectiveness of the curriculum. Final outcomes on the impact of the Cooking for Health curriculum are pending. Results will be shared at www.mbiri.com/projects as soon as they are available.

Thank you (Pilámayaye) for your interest in the Cheyenne River Cooking for Health (Wičhózaŋni Étkiya Lol'íwaȟ'aŋ) Curriculum. We hope that the lessons will help you feel confi dent in choosing foods that are healthy, affordable, taste great, and promote optimal diabetes management.

Acknowledgements

Many people and organizations made important contributions to the Cooking for Health Curriculum that we would like to say thank you (Pilámayaye) to.

University of Washington
Mandy Fretts, Sarah Green, Caitie Hawley

Missouri Breaks Industries Research, Inc.
Corrine Huber, Rae O'Leary, Rebecca White Bull, Wendy Lawrence, Gail Uses The Knife, Tomi Smith, Kaana Watchman, Sydney Schad, Cassandra Mesteth, Mackenzie Huber, Laura Rose, and Torrie Eagle Staff.

Cheyenne River Sioux Tribe
CRST Diabetes Program
CRST Tribal Council
Lakota Thrifty Mart
CRST Food Distribution Program

Research Contributors
Anne Thorndike, Arlette Hager, Barbara Howard, Jason Umans, Lyle Best, Marcia O'Leary, and Shirley Beresford

Artist
Gina Red Bear

We are especially grateful to the focus group and research study participants who contributed to this health education resource for future generations by volunteering for this study.

TABLE OF CONTENTS

Lesson 1:
Introduction

In this lesson, you will learn:

- Lakota values that apply to healthy eating
- Online nutrition resources
- Types of healthy foods - fruits, vegetables, grains, protein, and dairy
- Essential nutrients
- Food safety
- Knife basics
- Commonly used kitchen tools
- Cooking terms
- Measuring tips

Lakota Values

Wičhózaŋni Étkiya Lol’íwaȟ’aŋ
(Cooking for Health)

Wówauŋšila (Compassion) for my family and friends to stay healthy

Wóksape (Wisdom) to make healthier choices to live a long and prosperous life

Wóyuonihaŋ (Respect) our bodies and the gift of food by eating healthy

Wóuŋšiičiye (Humility) to recognize the importance of my health and better manage my diabetes through good nutrition

Wówačhaŋtognake (Generosity) to promote wellness for my family, friends, and others

Wóohitike (Courage) to educate the truth about the dangers of diabetes and eating unhealthy foods

Wówačhiŋthaŋka (Patience) for me and my family to make healthy food choices

Online Nutrition Resources

General Nutrition

MyPlate
http://www.choosemyplate.gov

Dietary Guidelines
http://www.health.gov/dietaryguidelines

Cooking Matters Resources
Cooking Matters App
https://cookingmatters.org/app

Food Budgeting

Share Our Strength, Meeting Your MyPlate Goals on a Budget
http://cookingmatters.org/my-plate

ChooseMyPlate.gov, Eating Healthy on a Budget
https://www.choosemyplate.gov/budget

Iowa State University Extension and Outreach, Spend Smart. Eat Smart.
http://www.extension.iastate.edu/foodsavings

Special Concerns

Heart Disease and High Blood Pressure
http://www.nhlbi.nih.gov

Diabetes
http://www.diabetes.org

Federal Nutrition Programs

Supplemental Nutrition Assistance Program (SNAP)
https://www.fns.usda.gov/snap

Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)
https://www.fns.usda.gov/wic

Cheyenne River Cooking for Health

List other online resources you find useful:

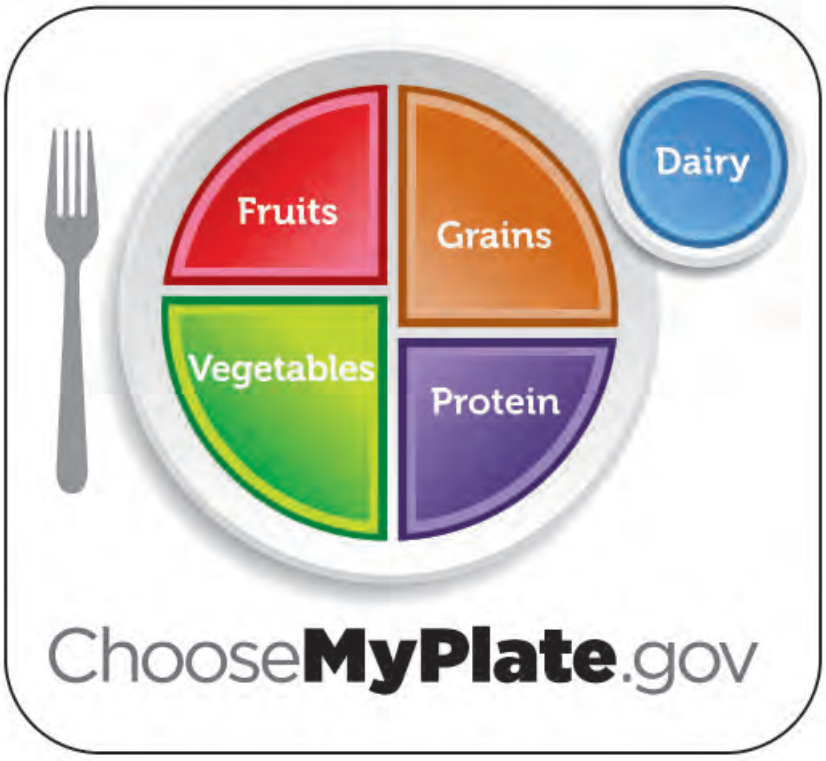
What are Healthy Foods?

Eating healthy is a key component to managing diabetes. Choose fruits, vegetables, whole grains, lean proteins, and low-fat dairy foods at every meal, and try to drink and eat less sodium, saturated fat, and added sugars.

“MyPlate” is the current nutrition guideline for most of us. MyPlate guidelines include 5 main food groups: fruits, vegetables, grains, protein, and dairy. The MyPlate diagram shows what a typical healthy plate should look like. Each section of the plate shows how much food from each food group should be eaten every day. Before you eat, think about how your plate compares to the MyPlate guidelines.

MyPlate

Eat Right. Have fun.



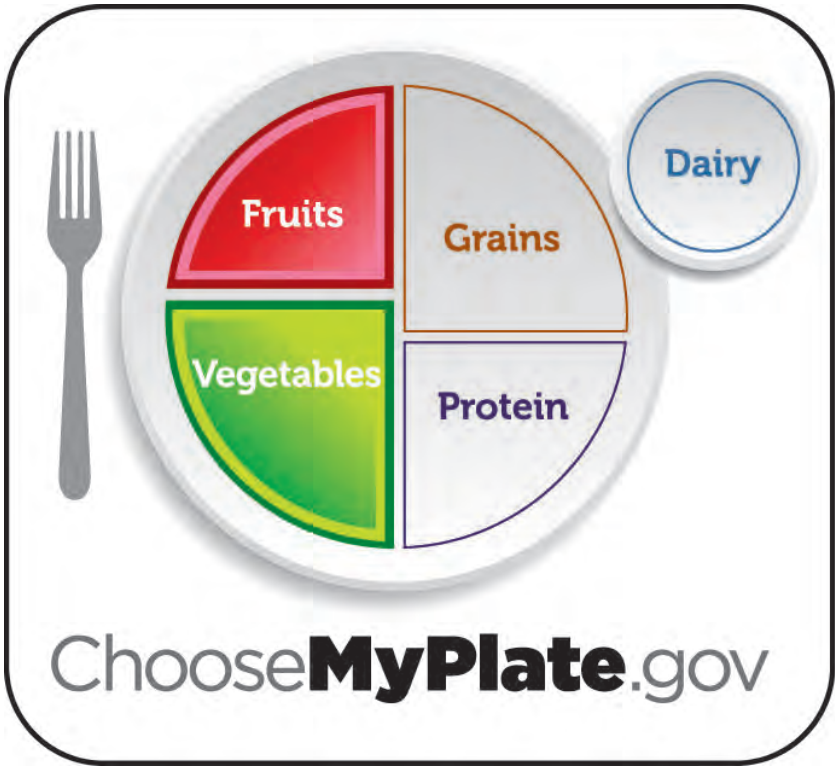
Fruits (Waskúyeča) and Vegetables (Waȟóthoka)

Fill half of your plate at every meal with fruits and vegetables.

Why? Fruits and vegetables are low in calories and have lots of vitamins and minerals, including potassium, fiber, folate (folic acid), and vitamin C. Research has shown that people who eat fruits and vegetables every day have a lower risk of many chronic diseases, such as heart disease, high blood pressure, and some cancers.

Most of us don't eat enough fruits and vegetables every day. We might think fruits and vegetables (especially fresh) are too expensive, but there are ways you can afford inexpensive fruits and vegetables if you shop carefully. You will learn more about how to prepare and budget for fruits and vegetables in Lesson 3 and Lesson 4.

Remember that in addition to vitamins and minerals, fruit contains carbohydrates. Be sure to include fruit when carbohydrate counting.



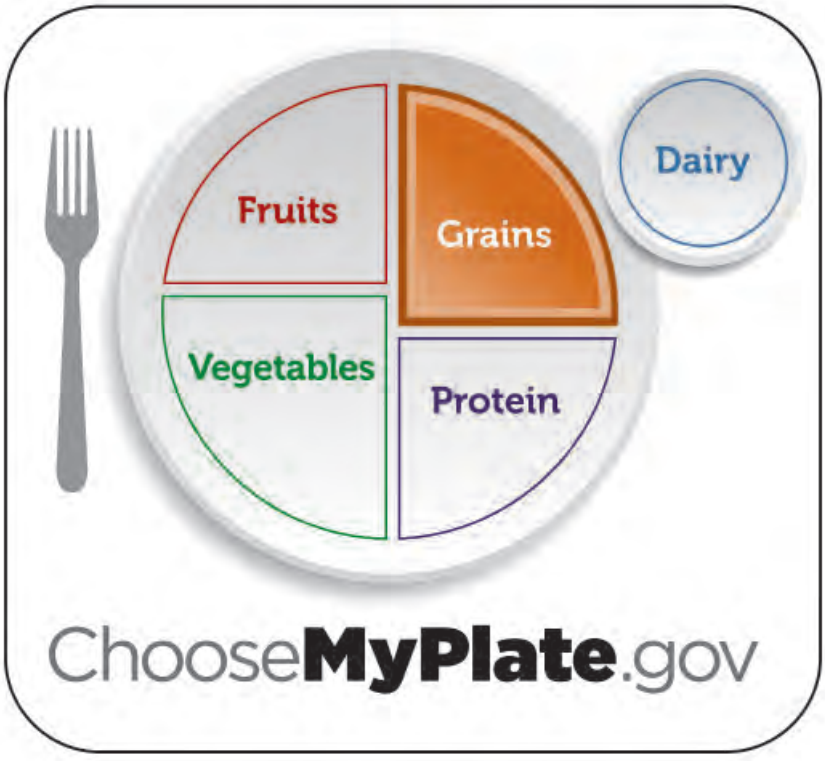
Grains (Pȟeží íŋkpa)

Choose grains as part of a healthy diet, and make sure at least half of your grains are whole.

Why? Whole grains contain the entire grain kernel – the bran, germ, and endosperm. Whole grains are high in fiber, iron, magnesium, vitamin B, and vitamin E. Non-whole grains have been heavily processed. The processing creates a finer texture, but removes key nutrients and fiber.

Research has shown that people who eat whole grains have a lower risk of obesity and heart disease. Whole grain pastas and bread, oatmeal, and popcorn are common whole grains. Many breakfast cereals are also high in whole grains. Pick breakfast cereals with at least 3 grams of fiber and less than 6 grams of sugar per serving.

A variety of inexpensive whole grain foods are available at grocery stores in the community. You will learn more about how to prepare and budget for whole grains in Lesson 7.



Protein Foods (Tȟaló)

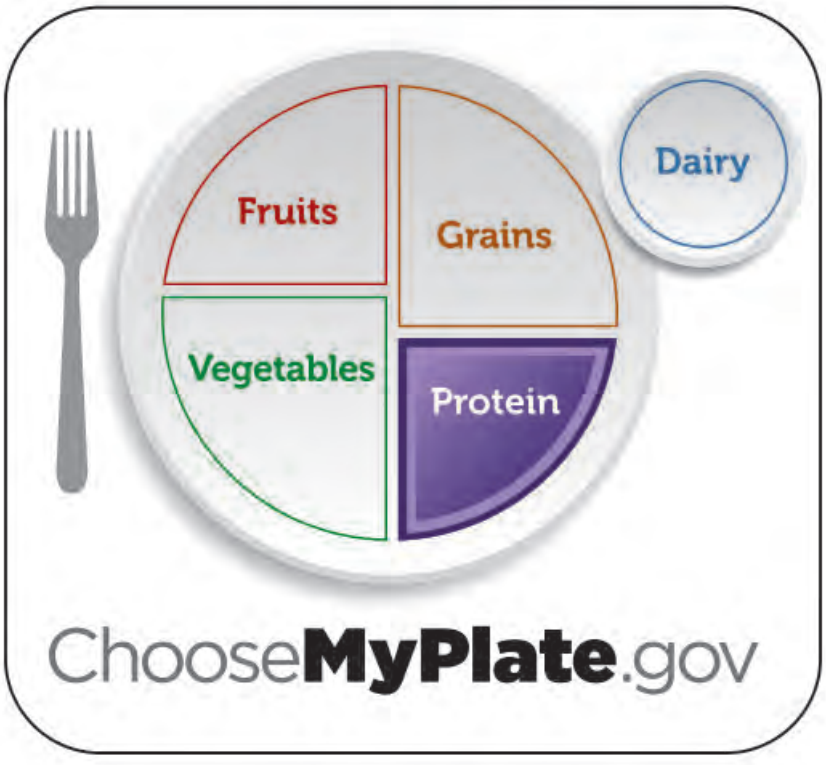
Choose lean proteins.

Why? Different sources of protein contain vastly different amounts of saturated fat, so the healthy choice is to eat protein that is lean. Common sources of lean protein include poultry, buffalo (tȟatȟáŋka), fresh fish and seafood, beans, eggs, tofu, nuts, and seeds.

It is common to believe that you need to eat lots of protein every day, but you actually don't need very much protein to be healthy. Most of us eat plenty of protein. Protein only takes about one-quarter of the space on the plate—so you should aim to eat twice as many fruits and vegetables as protein.

Some meats are very expensive, but there are lots of ways to include meat in your diet while not spending too much money. You will learn more about how to prepare and budget for protein in Lesson 6.

Remember that some vegetarian sources of protein (for example, black beans, pinto beans, tofu contain carbohydrates. Be sure to include these proteins when carbohydrate counting.



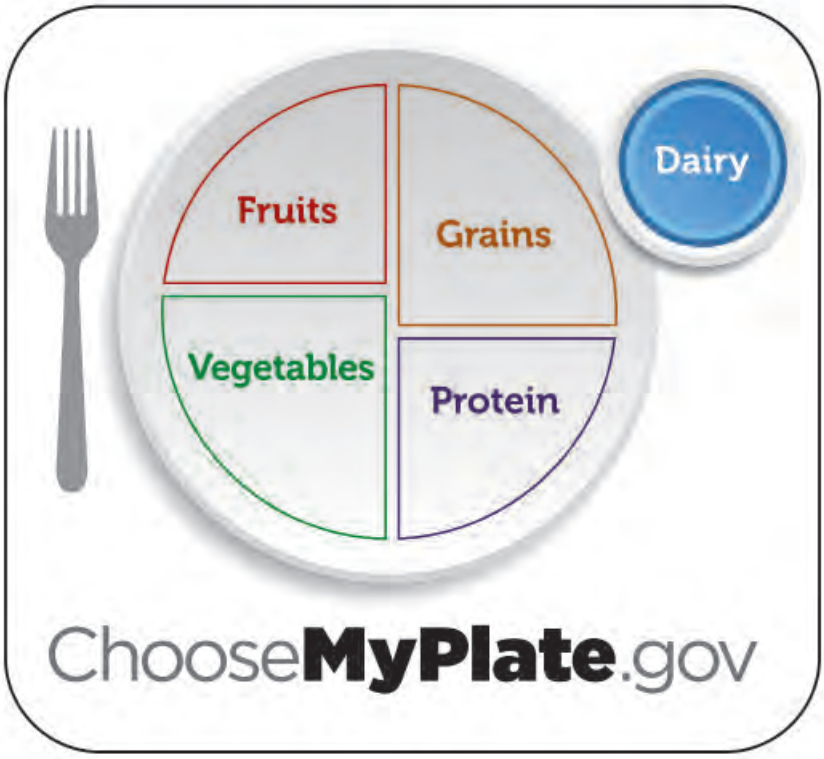
Dairy/Milk (Asáŋpi)

Choose low-fat dairy products.

Why? Many dairy products are high in fat, so be sure to choose milk and yogurt that are "low-fat" (use 1% milk or fat-free (use skim milk. Common dairy foods include milk, cheese, and yogurt. Dairy products are high in calcium and vitamin D—nutrients that are important to maintain healthy bones and teeth.

If you are lactose-intolerant, try soy milk or almond milk as a source of calcium and vitamin D.

Dairy products contain different amounts of carbohydrates depending on the product. Be sure to look at the Nutrition Facts labels of dairy products to accurately count carbohydrates. You will learn more about healthy dairy products in Lesson 5.



MyPlate Take-Home Message

- Eat a variety of foods from the five food groups.
- Fill half of your plate at every meal with fruits and vegetables.
- At least half of your grain servings should be whole grains.
- Many breakfast cereals are high in whole grains.
- Choose lean proteins, such as chicken, turkey, and fish.
- Choose fat-free or skim milk, and water instead of pop, sports drinks, or other sugary drinks.

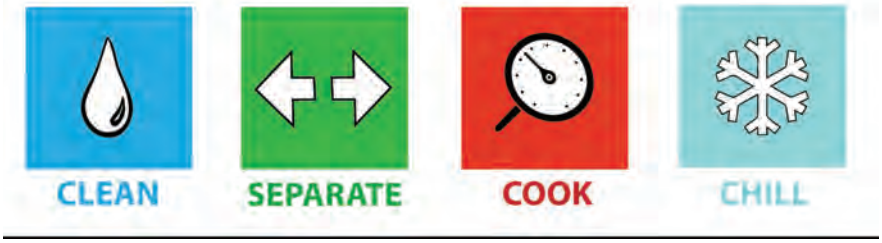
Essential Nutrients

Nutrients are substances that our bodies need to grow properly. Nutrients come from the foods we eat. Each nutrient does a special job in our bodies to keep us healthy. There are six essential nutrients our bodies need. They are: water, protein, carbohydrates, fats, vitamins, and minerals.

6 Essential Nutrients	Function in the Body	Food Sources
1. Water	• Carries vitamins and minerals to cells in the body • Helps keep body temperature at 98.6°F	Water, beverages, foods containing water
2. Protein	• Builds and repairs muscles • Provides calories (energy) for the body	Meat, fish, poultry, milk, cheese, yogurt, dried beans/peas, peanut butter, tofu
3. Carbohydrates	• Come in three forms: starch, sugar and fiber • Foods with starch and sugar provide calories (energy) for the body • Fiber helps the body eliminate waste products	Starch: white/whole grain breads, rice, pasta/cereals, vegetables Sugars: table sugar, fruits, milk, puddings, yogurt, honey Fiber: fruits, vegetables, whole grain breads/cereals, rice, pasta
4. Fats	• Provide calories (energy) for the body • Carry Vitamins A, D, E and K to our cells	Butter/margarine (including foods containing butter/margarine), whole milk, meat, egg yolks, cheese, nuts
5. Vitamins	• Help the body use other nutrients (protein, carbohydrates and fats)	
Vitamin A	• Keeps skin healthy • Helps eyes adjust to dim light	Liver, milk, some cheese, egg yolk, dark green leafy vegetables (spinach, kale, etc.), deep yellow fruits/vegetables (sweet potatoes, pumpkin and cantaloupe)
Vitamin D	• Helps use calcium to build strong bones and teeth	Milk, exposure to sunlight, foods fortified with Vitamin D
Vitamin C	• Helps heal wounds • Builds strong bones, teeth and cells	Citrus fruits (orange, grapefruit, lemon, etc.), pineapple, kiwi, tomatoes, strawberries, cantaloupe, cranberries, cabbage, broccoli, cauliflower, kale, Brussel sprouts, potatoes, peppers, spinach
B Vitamins (Thiamin, Riboflavin, Niacin)	• Promote good appetite and digestion • Keep skin, eyes, tongue, and nervous system healthy	Whole grains, enriched breads/cereals, rice, pasta
Folic Acid	• Keeps body healthy • Prevents certain birth defects	Deep green vegetables (spinach, asparagus, Brussel sprouts), citrus fruits (oranges, grapefruit, lemons), strawberries, enriched breads and cereals, beans (kidney, black, etc.)
6. Minerals	• Needed for normal growth and development • Help maintain the health of bones and blood	

Adapted from: SDSU Extension 2017 Special Foods Handbook

Keeping Food Safe



Preparing food safely is an important component of eating healthy. There are four basic food safety practices that will lower your risk of getting sick from foodborne illnesses—Clean, Separate, Cook, and Chill.

Clean

Washing your hands before handling or preparing food, and keeping a clean kitchen is one of the most effective ways to prevent food-borne illnesses. **You will need to wash your hands many different times during the food preparation process.**

To wash your hands

- **Wet** your hands with clean, running water (can be warm or cold) and apply soap (liquid, bar, or powdered soap).
- **Lather** your hands by rubbing them together with the soap. **Scrub** your hands for at least 20 seconds (20 seconds is about the time it takes to sing or hum the "Happy Birthday" song twice). Remember to lather the backs of your hands, between your fingers, and under your nails.
- **Rinse** well. **Dry** your hands using a clean towel.

Keep Food Surfaces Clean

- Harmful bacteria can spread easily throughout your kitchen on cutting boards, dishes, utensils, and countertops. Wash cutting boards, dishes, utensils, and countertops with hot, soapy water after preparing each food item and before you go on to the next item.
- Wash down the stovetop (including knobs) after preparing your meal.
- Once a week, throw out refrigerated foods that should no longer be eaten. As a rule of thumb, cooked leftovers should be eaten within 4 days.

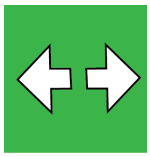
Try this simple bleach cleaning solution for countertops and the stovetop:

- Mix 1/4 teaspoon bleach with 2 cups of water in a plastic spray bottle
- Store in a cool and dry place for no longer than a month
- Wear rubber gloves when using a bleach solution

Wash Produce

- Wash fresh fruits and vegetables with clean running water before eating, cutting, or cooking. This includes produce that you plan to peel - as you don't want to transfer bacteria from the outside to the inside of the produce. Soap and bleach are not recommended when washing fruits and vegetables.

Separate



- When shopping, choose meat packages that are cold and tightly wrapped.
- When shopping, look for package leaks or other damage.
- In your refrigerator, keep raw meat, poultry, and seafood away from other food — especially raw foods or foods that do not need to be heated.
- A good place to store raw meat, poultry, and seafood is in sealed bags or Tupperware on the bottom shelf of the refrigerator so their juices do not drip on other foods.
- When cooking, use different cutting boards for raw meats, poultry, and seafood than for other foods.

Cook

- Use a food thermometer to be sure food is safe to eat.
- Place the food thermometer in the thickest part of the food, away from the bones—and follow the “Safe Minimal Internal Temperature Chart” to be sure that foods are safe to eat.

Safe Minimal Internal Temperature Chart

145°F	160°F	165°F
		
fish, roasts, steaks, and chops (beef, pork, veal and lamb)	egg dishes and ground meats (beef, pork, veal and lamb)	stuffing, all poultry, casseroles reheated lefovers

Chill

- Keep freezer temperature at or below 0 degrees F.
- Keep refrigerator temperature at or below 40 degrees F.
- When shopping, put refrigerated and frozen items in your cart last.
- Refrigerate or freeze perishable items as soon as you get home from the store.

How to Use a Food Thermometer

Use a food thermometer to ensure that your food has reached the proper temperature for doneness. By cooking food to the proper temperature, you will prevent foodborne illness. The color and texture of food does not always indicate whether or not it is done.

Instant read thermometers are the most common types of thermometers for use in homes. Types of instant read thermometers are:

- Bi-metallic stem thermometer: most commonly used and most cost-effective. To use, insert into the center of the food from tip to dimple; allow about 15 seconds for the temperature to accurately read.
- Digital thermometer: about twice the cost of a stem thermometer. The sensor is in the tip of the thermometer, so the tip needs to be inserted into the center of the food. The thermometer will provide a digital read out of the temperature.

TIPS FOR USING THERMOMETERS

- Any food can be tested with a food thermometer: meat, poultry, fish, eggs, casseroles, soups. Casseroles, soups, and leftovers should have no cold spots.
- Make sure the thermometer is clean every time you use it. If you check a food and it is not the correct temperature, wash it before you check the temperature again.
- When checking meat and poultry, check the thickest part.
- Calibrate thermometers when you first get them and every three months after by inserting into an ice bath, waiting 30 seconds, and turning the dial to 32ºF.

Bi-metallic Stem Thermometer

Digital Thermometer

Cook foods to the following temperatures:

- Ground Beef and pork 160ºF.
- Ground Poultry 165ºF.
- Cuts of beef and pork 145ºF, plus let it stand for 3 minutes.
- Poultry (chicken, turkey, duck) 165ºF.
- Egg dishes (quiche) 160ºF.
- Eggs (fried, scrambled, boiled) yolk and white must be firm.
- Fish 145ºF or until it is opaque and flakes easily with a fork.
- Casseroles, soups, and leftovers 165ºF.

Knife Basics

Follow these tips to buy, use, and care for your knives.

Shopping Tips

- Hold a few in your hand before buying if you can. Handles have different shapes. Some may feel more comfortable than others.
- You don't need to purchase a 10-knife block set. Most kitchen tasks can be done with just one or two knives. Here are a few tips:
  - Chef's knife (8–10-inch blade). Almost all kitchen jobs can be done with just this knife. If you can only buy one, go with this one.
  - Paring knife (3–4-inch blade). Good for tasks where you may need to be more precise, like peeling and coring.
  - Serrated knife (8–10-inch blade, small "teeth"). This knife is long like a chef's knife but the blade edge is jagged, rather than smooth. Good for slicing bread and cutting soft-skinned produce like tomatoes.

Safety Tips

- Never put a knife in a sink full of water. You or someone else may forget it's there. This can lead to cuts when you grab things to clean.
- Don't try to catch a falling knife. If you drop it, take a quick step back so it doesn't nick your toes or bounce back on you.
- To pass a knife, hand it off by the handle. Or, set it down on the counter and let the other person pick it up.
- Always walk with the blade of your knife pointed towards the floor. This helps avoid nicking someone who comes into your path.
- When you are not using your knife, place it at the top of your cutting board. Keep the blade facing away from you.
- Keep knives sharp. A dull knife requires more force, which can lead to slipping. To sharpen knives, check the cost at a local hardware or kitchenware store, or price out sharpeners at discount stores. Do not try to sharpen serrated knives — it could ruin the teeth.

Using Knives Safely

Our recipes call for a lot of slicing, dicing, chopping, and mincing. Use these tips to cut like a pro:

- **Watch your fingers.** Tuck your fingers toward your palm on the hand that is holding the food.
- **Lead down with the tip**. Angle the tip of the knife toward the cutting board.
- **Slice.** Cut through the food with a slicing or sawing motion. Don't just push down.
- **Create a flat surface.** When working with round foods like onions or potatoes, cut them in half first. Lay the flat side down, then keep cutting.

Commonly Used Kitchen Tools

There are many types of kitchen tools and gadgets available. However, you don't need very many tools in order to prepare healthy foods for you and your family. Here is a list of kitchen tools that are commonly used in recipes.

Peeler

Measuring Spoons

Mixing Spoon

Spatula

Sheet Pan

Knife

Stock Pot

Cutting Board

Colander

Mixing Bowl

Can Opener

Whisk

Measuring Cups

Hot Pad or Oven Mitt

Cooking Terms

Recipes are easier to follow when you know these common terms.

Bake	To cook food in an oven with dry heat.
Boil	To cook food quickly in heated liquid. The liquid moves rapidly, and large bubbles keep breaking the surface. Often used for vegetables and pasta.
Broil	To cook food directly under the heat source of a gas or electric oven. Often used for fish and tender cuts of meat.
Brown	To cook quickly over high heat, usually on top of the stove, so the surface of the food turns brown and the inside stays moist.
Chop	To cut into pieces, which can vary in size.
Dice	To cut into small, even cubes, usually about ¼ inch per side.
Grill	To cook food directly on the heat source of a gas, charcoal, or wood grill. Often used for fish, tender cuts of meat, and vegetables.
Knead	To mix and work the ingredients that make up dough into smooth, elastic form. Can be done with hands or a heavy-duty mixer.
Mince	To cut food into even smaller pieces than diced.
Mix	To beat or stir two or more foods together until they are combined.
Poach	To cook food gently in large amounts of heated liquid. The liquid moves slightly, but no bubbles break the surface. Often used for eggs, fish, and fruit.
Roast	To cook by dry heat, usually in an oven.
Sauté (Pan Fry)	To cook food in a small amount of fat or oil on top of a stove. Heat the fat until hot (but not smoking), add the food, and cook to stated time or tenderness.
Simmer	To cook food slowly in heated liquid. Small bubbles should break the surface. Often used for meats and stews that benefit from slow cooking.
Slice	To cut into wide, thin pieces.
Steam	To cook food quickly in a covered pot by the moist heat made from a small amount of heated liquid. The food is held above the liquid by a basket or rack. Often used for vegetables and fish.
Whisk	To beat ingredients with a fork or a “whisk.” This adds air and increases the volume. The mixture appears light and fluffy.

Measure Up

Common Abbreviations

Need a Tablespoon but can only find a teaspoon measure? Use these conversions:

Teaspoon	Tablespoon	Cups	Ounces	Other
3 teaspoons	1 Tablespoon	1/16 cup	1/2 oz	
6 teaspoons	2 Tablespoons	1/8 cup	1 oz	
	4 Tablespoons	1/4 cup	2 oz	
	8 Tablespoons	1/2 cup	4 oz	1/4 pint
	12 Tablespoons	3/4 cup	6 oz	
	16 Tablespoons	1 cup	8 oz	1/2 pint
		2 cups	16 oz	1 pint
		4 cups	32 oz	1 quart
		8 cups	64 oz	2 quarts
		16 cups	128 oz	4 quarts = 1 gallon

Common Abbreviations

You may see these symbols in your recipes:

teaspoon = t or tsp

Tablespoon = T, Tbs, or Tbsp

ounce = oz

fluid ounce = fl or fl oz

cup = c

pint = pt

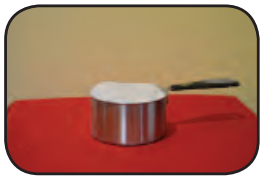
quart = qt

gallon = gal

pound = lb

Even or Level: Measure the exact amount (so the ingredient is level with the top of the cup or spoon). If the recipe doesn't say, measure like this.

Firmly Packed: Press as much of the ingredient as you can fit into the measure.



Lightly Packed: Press the ingredient into the cup lightly. Don't pack too tightly.

Rounded: Allow the ingredient to pile up above the rim of the measuring cup or spoon naturally, into a soft mound.

Heaping: Pile as much of the ingredient on top of the measure as it can hold.

Sifted: Pass dry ingredients through a fine-mesh strainer or sifter before measuring.

Pinch or Dash: A small amount, usually less than ⅛ of a teaspoon.

Cooking for a Crowd?

Try doubling the recipe.

Cooking for One or Two?

Try halving the recipe.

Recipe calls for:	Double the amount by using:	Half the amount by using:
1 cup	2 cups	1/2 cup
3/4 cup	1 1/2 cups	6 Tablespoons
2/3 cup	1 1/3 cups	1/3 cup
1/2 cup	1 cup	1/4 cup
1/3 cup	2/3 cup	2 Tablespoons + 2 teaspoons
1/4 cup	1/2 cup	2 Tablespoons
1 Tablespoon	2 Tablespoons	1 1/2 teaspoons
1 teaspoon	2 teaspoons	1/2 teaspoon
1/2 teaspoon	1 teaspoon	1/4 teaspoon
1/4 teaspoon	1/2 teaspoon	1/8 teaspoon

Challenge Yourself!

Practice Doubling a Recipe

You have been asked to make chicken and rice for a party. The recipe that you want to make says that it will serve 8 people. There will be 16 people at the party. Rewrite the ingredients for the recipe for chicken and rice so that you can feed 16 people.

Serving Size

Recipe serves 8: one serving equals 2/3 cup chicken and veggies, and 1/2 cup cooked rice

Ingredients

- 2 cups brown rice
- 2 large bell peppers
- 1 large onion
- ½ small serrano pepper
- 2 limes
- 2 pounds boneless, skinless chicken thighs
- 2 Tablespoons canola oil
- ¾ cup orange juice
- ¼ cup water
- ¼ teaspoon dried thyme
- ½ teaspoon salt
- ½ teaspoon ground black pepper

Nutrition Facts

Serving Size 2/3 cup chicken and veggies and 1/2 cup rice
Servings Per Recipe 8

Amount Per Serving	
Calories 390	Calories from Fat 100
	% Daily Value*
Total Fat 12g	15%
Saturated Fat 2.5g	13%
Trans Fat 0g	
Cholesterol 105mg	35%
Sodium 240mg	10%
Total Carbohydrate 48g	17%
Dietary Fiber 3g	11%
Sugars 5g	
Protein 24g	
Vitamin A 15% •	Vitamin C 100%
Calcium 2% •	Iron 10%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

To double the recipe, you will use:

___ cups brown rice
___ large bell peppers
___ large onions
___ small serrano pepper
___ limes
___ pounds boneless, skinless chicken thighs
___ Tablespoons canola oil
___ cups orange juice
___ cup water
___ teaspoon dried thyme
___ teaspoon salt
___ teaspoon ground black pepper

Answer: 4 cups brown rice; 4 large bell peppers; 2 large onions; 1 small serrano pepper; 4 limes; 4 pounds boneless, skinless chicken thighs; 4 Tablespoons canola oil; 1 ½ cups orange juice; ½ cup water; ½ teaspoon dried thyme; 1 teaspoon salt; 1 teaspoon ground black pepper

Making Recipes Work for You

Learn to adjust recipes to meet your needs

Make changes to recipes based on:

- foods you have on hand, including leftovers
- what is in season
- family size and tastes
- ingredients on sale
- amount of time you have free to cook
- healthier cooking methods

Use the following ideas to combine foods and flavors in a way that appeals to your family:

Type of Recipe	What it is	Example From Your Book	Make It Work For You
Soup/Stew	Meat and/or vegetables cooked slowly in a broth with seasonings.	Soup Made Simple	• Mix it up with different meats, vegetables, or beans. • Season to your tastes with different herbs or spices. • Go meatless.
Casserole	One-pot dish cooked slowly in the oven. Often contains rice or pasta, vegetables, beans, and/or meats.	Casserole	• Use different types of cheese or different shapes of pasta. • Add chopped vegetables, meat, or tuna. • Season with different spices.
Salad	Mix of grains, fruits, and/or cold vegetables with a dressing.	Super Salads	• Use different grains, vegetables, nuts, or dried fruits.
Wrap	Mix of hot or cold foods inside a sandwich wrap.	Veggie Wraps	• Use different beans, vegetables, cheeses, or herbs. • Replace the eggs with tofu. • Make heartier by adding leftover rice or cooked meats.

Making Recipes Work for You

Missing an ingredient? Don’t have time to go to the store?

Challenge Yourself!

Set a Goal

Choose (kaȟníğa) one of the goals below (or set your own) to try during the next month:

- ❒ I will try low-fat milk, cheese, and yogurt.
- ❒ I will try whole grain bread, cereal, and pasta that is on sale or inexpensive.
- ❒ I will read labels to find lean meats.
- ❒ I will practice measurement skills by creating a recipe from the cook book.
- ❒ I will: _____

_____

_____

_____

_____

Lesson 2:
Getting Healthy Foods (Wóyute)

Buying groceries is a key step in meal planning. In this lesson, you will learn:

- How to stock a pantry
- How to compare prices of food items at the grocery store (even if two items are different sizes) to save money
- How to compare Nutrition Facts labels to make healthy choices
- Benefits of grocery shopping with a list

What is a Pantry?

A pantry is a cool and dry place to store non-perishable foods—like dry goods, canned goods, and spices. Many people use cupboards, drawers, or a closet as a pantry. If you do not have access to a built-in space for a pantry, you can use a small bookcase or table.

Keeping a well-stocked pantry helps make meal planning easy. Once your pantry is well-stocked, you may find that you need to go to the grocery store less frequently--you will only need to shop for perishable items, like fresh fruits, vegetables, and meats, or when you run out of a pantry item.

Stocking Your Pantry

This list shows commonly used pantry items. If you want to stock your pantry to be ready for preparing healthy meals and snacks, this list is a good place to start.

Seasonings (Wíčahiyutapi), Dried Herbs, and Spices (Wapȟápȟa)

- ❒ Basil, dried
- ❒ Black pepper
- ❒ Cayenne pepper
- ❒ Chili powder
- ❒ Cinnamon, ground
- ❒ Cumin, ground
- ❒ Garlic powder
- ❒ Ginger, ground
- ❒ Oregano, dried
- ❒ Paprika
- ❒ Parsley, dried
- ❒ Salt
- ❒ Soy sauce, low-sodium
- ❒ Thyme, dried

Baking Staples

- ❒ Baking powder
- ❒ Baking soda
- ❒ Cocoa powder
- ❒ Flour: all-purpose & whole wheat
- ❒ Rolled oats
- ❒ Sugar: brown & granulated
- ❒ Vanilla extract
- ❒ Canned or powdered milk
- ❒ Cornmeal
- ❒ Yeast

Cooking Staples

- ❒ Barley, pearled and/or quick-cooking
- ❒ Brown rice
- ❒ Canned or dried beans (black, kidney, pinto, great northern, other)
- ❒ Canned corn (no salt added)
- ❒ Canned green beans (no salt added)
- ❒ Canned peas (no salt added)
- ❒ Canned pineapple, peaches, or fruit cocktail (no sugar added)
- ❒ Canned tomatoes (no salt added): crushed, diced, tomato sauce
- ❒ Canola oil
- ❒ Chicken or beef broth, low-sodium
- ❒ Cornstarch
- ❒ Non-stick cooking spray
- ❒ Nuts: almonds, peanuts, other favorites
- ❒ Peanut butter
- ❒ Raisins or other dried fruit
- ❒ Tuna or salmon, canned in water
- ❒ Vinegar: white, cider
- ❒ Whole grain cereal
- ❒ Whole grain pasta: spaghetti, macaroni, penne, lasagna noodles

Pantry Tip!

- Many pantry items are available through the Commodity Foods Program. If you use commodity foods, be sure to stock up on oats, canned vegetables, canned tomatoes, canned fruits, canned or dried beans, peanut butter, tuna, pasta, and rice.

Stocking Your Pantry, continued...

Keep these ingredients on hand to create quick and healthy meals.

Baking Products.
Have flour, sugar, baking soda, and baking powder on hand. They are basic ingredients for many fresh baked goods.

Canned Beans (Omníča) and Fish.
Add beans like kidney, black, pinto, or lima to salads and soups. Or, serve as side dishes or add to a main dish. Use canned tuna and salmon to add protein to salads, casseroles, and pasta.

Canned Fruits (Waskúyeča) and Vegetables (Watȟótȟoka).
Canned produce like pineapple, applesauce, corn, and green beans make quick and easy side dishes or snacks on their own. Or, use as an ingredient to stretch main dishes.

Dried Fruit (Waskúyeča) and Nuts.
Use as a snack on their own or in homemade trail mix. Add to cereals, baked goods, and yogurt for a snack or breakfast.

Canned or Powdered Milk (Asáŋpi).
Canned low-fat evaporated and dry powdered milk keep longer than fresh. Prepare them according to the package directions. Use in recipes instead of fresh milk.

Canned Tomato Products.
Keep canned tomato sauce and whole, diced, or puréed tomatoes on hand. They are basic ingredients in a wide range of recipes.

Cereals.
Stock up on whole grain cereals when they're on sale. Enjoy with fruit and milk. Or, use to make dried cereal snack, baked goods, or crispy coatings for meat, poultry, and fish.

Dried Herbs.
Buy the dried herbs and spices you use often. Use to add flavor in place of extra salt.

Pasta and Rice.
Buy whole wheat pasta and brown rice on sale or in bulk or family (thiwáhe)-sized packages. Store in airtight containers after opening to keep fresh and prevent pests.

Vinegar.
Keep apple cider, red wine, rice, or balsamic vinegars on hand for homemade salad dressings and marinades.

Oil.
Canola and olive oils are healthy choices when cooking or making dressings. Cooking spray keeps food from sticking to the pan.

Becoming a Better Shopper:

Compare Prices and Use Unit Pricing to Find the Best Buy

It is often challenging for families with limited resources to be able to afford healthy foods. The price tag on the grocery shelf contains useful information to help you decide which food items are the best deal. Here are the details on how to read the price tags to help maximize your food dollars:

Look for the unit price right on the shelf tag. It will be listed separately from the retail price (the price you pay).

If your store does not list the unit price, you can calculate it yourself. You just need two numbers: the retail price and the number of units the food is sold in (like pounds or ounces).

To calculate unit price, divide the retail price by the number of units. In this example:

Unit price = Retail price divided by Number of units

$1.99 divided by 15 ounces equals $0.13 per ounce

Shopping Tip!

- Always take a calculator with you when shopping to calculate the best buy using unit pricing.

Challenge Yourself!

Sometimes the units of the foods you wish to compare are different. In this case, you'll need to find a common unit before you find the unit price.

When comparing unit prices, it helps to know that

1 pound = 16 ounces

Units in pounds

Units in ounces

In this example, Food A can also be written as 80 ounces of carrots. Now find the unit price of each food. Circle the one with the lowest unit price. Check your answers below.

5 pounds x 16 ounces per pound = 80 ounces

Unit price of **Brand A** (whole carrots) = $_____ divided by 80 ounces equals $____ per ounce

Unit price of **Brand B** (shredded carrots) = $_____ divided by 10 ounces equals $____ per ounce

Use unit prices to compare:

- The same food in different form (like whole carrots and baby carrots)
- Foods in different size containers (like a half-gallon and a whole gallon of milk)
- Foods in a similar category or food group (like a pound of zucchini and a pound of asparagus)
- Different brands of the same food (like name-brand or store-brand cereal)

Answers: Food A = $0.04 per ounce, Food B = $0.20 per ounce

Challenge Yourself!

Get Comfortable with Unit Prices

Here are some food labels from a local grocery store. Use the calculator provided with your Cheyenne River Cooking for Health Welcome Kit and paper/pencil to figure out which food item has the lowest unit price. Check your answers below.

Example.

Unit Price of Campbell’s Soup:
$1.89 for a 10.5 oz can

$1.89 divided by 10.5 ounces
equals $0.18 per ounce

Unit Price of Best Choice Soup:
$0.99 for a 10.5 oz can

$0.99 divided by 10.5 ounces
equals $0.09 per ounce

Tip: Save yourself some time.

- Notice that these 2 cans of soup are the same size (both 10.5 ounce cans). When comparing packages that are the same size, you can use the retail price to compare cost.

Now You Try:

Unit Price of Green Giant Green Beans (omníča) $1.99 for a 12 oz package

Unit Price of Best Choice Green Beans (omníča) $1.59 for a 16 oz package

$_____ divided by 12 ounces

equals $_____ per ounce

$_____ divided by 16 ounces

equals $_____ per ounce

Answers: Green Giant Green Beans = $0.17 per ounce, Best Choice Green Beans = $0.10 per ounce

Pros and Cons of Buying in Bulk

When you use unit pricing to compare the cost of two food items, you will quickly realize that it is often (but not always) the larger package of a food that is the better value.

But sometimes buying the larger package of a food item is <u>not</u> the best buy.

Ask yourself these questions before deciding to buy the larger package:

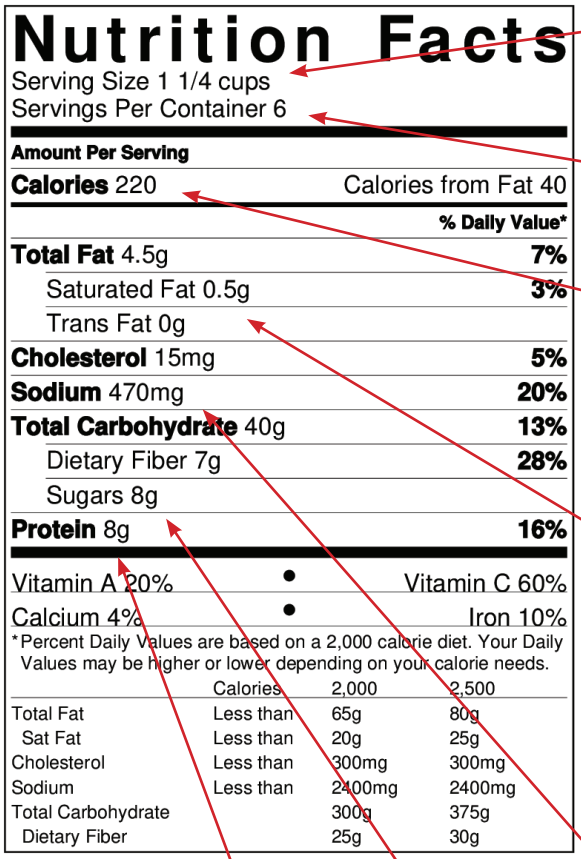
- ★ Will I use up the larger package before it spoils?
- ★ Do I have enough money to buy the larger package?
- ★ Do I have a place to store the larger package?
- ★ Do I have the storage containers needed to safely store the larger package?

Recognizing Healthy and Unhealthy Foods (Wóyute)

Reading Nutrition Facts Labels

Use the label to guide your food choices.

Nutrition Facts labels are on packaged foods and beverages. The Nutrition Facts label can help you choose healthy foods because it provides information about calories and nutrients (for example, fat, sodium, sugar) in a single serving of the food. When comparing Nutrition Facts labels from different foods, check the serving size in order to make an accurate comparison.



Nutrition Facts

Serving Size 1 1/4 cups
Servings Per Container 6

Amount Per Serving

Calories 220 — Calories from Fat 40

	% Daily Value*
Total Fat 4.5g	**7%**
Saturated Fat 0.5g	**3%**
Trans Fat 0g	
Cholesterol 15mg	**5%**
Sodium 470mg	**20%**
Total Carbohydrate 40g	**13%**
Dietary Fiber 7g	**28%**
Sugars 8g	
Protein 8g	**16%**

Vitamin A 20% • Vitamin C 60%
Calcium 4% • Iron 10%

*Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2400mg	2400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Pay attention to serving size. Some listed serving sizes are very small. Ask yourself: "How many servings am I eating?"

Pay attention to servings per container. It is common for one package of food to contain more than one serving. If you eat ½ of this container of food, you are consuming 660 calories.

Pay attention to calories. Controlling calories is very important if you are trying to control your weight.

Type of fat is more important than total fat. Monounsaturated fat and polyunsaturated fat are healthy. Limit unhealthy fats, including saturated fat and trans fat.

- Total daily fat intake should be 20%-35% of total calories you eat.
- Limit saturated fat to be less than 10% of total calories you eat.
- Avoid all trans fats (0% of total calories you eat).

Lower levels of sodium is always better. Foods high in sodium can increase blood pressure.

Tip: Most sodium in the diet comes from processed foods, and not the salt shaker. Read Nutrition Facts labels closely to see how much sodium is in your food.

Limit sodium to less than 2,300 mg a day (or 1,500 mg a day if you're 51 years old or older).

Don't worry about protein.
Most of us get plenty of protein. Unless otherwise instructed by your doctor, paying attention to protein on Nutrition Facts labels should be secondary to looking at total calories, fat, sugar, and sodium.

Less sugar is always better. Read the ingredients list, and make sure you choose foods in which sugar is not the primary ingredient.

Tip: Sugar can come in many disguises. All of the following ingredients are sugar: sucrose, glucose, high fructose corn syrup, corn syrup, maple syrup, and fructose.

Limit added sugars to be less than 10% of total calories you eat.

Recognizing Healthy and Unhealthy Foods (Wóyute), continued...

Key Dietary Recommendations

Use the label to guide your food choices.

Nutrition Facts labels provide information on serving size, calories, and percent daily value (% Daily Value). The % Daily Value describes each nutrient in one serving of food. For example, if the label lists 6% for total fat, it means that one serving provides 6% of the total fat you need each day. The % Daily Values are based on a 2,000-calorie diet for healthy adults.

Nutrition Facts
Serving Size 1 1/4 cups
Servings Per Container 6

Amount Per Serving

Calories 220	Calories from Fat 40
	% Daily Value*
Total Fat 4.5g	**7%**
Saturated Fat 0.5g	**3%**
Trans Fat 0g	
Cholesterol 15mg	**5%**
Sodium 470mg	**20%**
Total Carbohydrate 40g	**13%**
Dietary Fiber 7g	**28%**
Sugars 8g	
Protein 8g	**16%**

Vitamin A 20% • Vitamin C 60%
Calcium 4% • Iron 10%

*Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2400mg	2400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

If you eat 2 servings of a food, be sure to double the calories and % Daily Values for all nutrients listed on the nutrition facts label.

Two servings of this food contains:

- 14% of Total Fat
- 6% Saturated Fat
- 10% Cholesterol
- 40% Sodium
- 26% Total Carbohydrate
- 56% Dietary Fiber
- 40% Vitamin A
- 120% Vitamin C
- 8% Calcium
- 20% Iron

needed per day (based on a 2,000 calorie diet)

How many calories you consume per day is dependent on your age, sex, and physical activity level. Talk to your health care provider about how many calories you need per day.

Nutrients to get less of – get less than 100% Daily Values of these each day: Saturated Fat, Trans Fat, Cholesterol, and Sodium.

Nutrients to get more of – get 100% Daily Values of these on most days: Dietary Fiber, Vitamin A, Vitamin C, Calcium, and Iron.

Adapted from: https://health.gov/dietaryguidelines/dga2005/toolkit/Worksheets/foodlabel.htm, https://www.accessdata.fda.gov/scripts/InteractiveNutritionFactsLabel/factsheets/Whats_On_The_Nutrition_Facts_Label.pdf & Cooking Matters

Recognizing Healthy and Unhealthy Foods (Wóyute), continued...

Here are some additional tips to help you recognize healthy and unhealthy foods:

★ **Look at ingredients lists**. Ingredients are rank-ordered on the ingredients label. The ingredients used in the greatest amount are listed first, followed in order by those found in smaller amounts.


Product formulations, packaging and promotions may change.
For current information, refer to packaging on store shelves.

Hidden Valley
THE ORIGINAL
Ranch
DRESSING

INGREDIENTS: VEGETABLE OIL (SOYBEAN AND/OR CONOLA), WATER, EGG YOLK, SUGAR, SALT, CULTURED NONFAT BUTTERMILK, NATURAL FLAVORS (MILK, SOY), LESS THAN 1% OF : SPICES, DRIED GARLIC, DRIED ONION, VINEGAR, PHOSPHORIC ACID, XANTHAN GUM, MODIFIED FOOD STARCH, MONOSODIUM GLUTAMATE, ARTIFICIAL FLAVORS, DISODIUM PHOSPHATE, SORBIC ACID AND CALCIUM DISODIUM EDTA AS PRESERVATIVES, DISODIUM INOSINATE, DISODIUM GUANYLATE, CONTAINS: EGG, MILK, SOY. GLUTEN FREE

THE HV FOOD PRODUCTS CO.
1221 BROADWAY, OAKLAND, CA 94612
©2009 MADE IN THE U.S.A.

PRODUCT MAY SETTLE DURING SHIPMENT
71100 00576

Nutrition Facts
Serv. Size 2 Tbsp (30mL)
Servings about 20
Calories 140
Calories from fat 130
* Percent Daily Values (DV) are based on a 2,000 calorie diet.

Amount/Serving	% DV*	Amount/Serving	% DV*
Total Fat 14g	22%	Total Carb. 2g	1%
Sat. Fat 2.5g	12%	Fiber 0g	0%
Trans Fat 0g		Sugars 1g	
Cholest. 10mg	3%	Protein 1g	
Sodium 260mg	11%		
Vitamin A 0%	•	Vitamin C 2%	
Calcium 0%	•	Iron 0%	

Tip: In this label for ranch dressing, vegetable oil contributed the most to the dressing, followed by water, egg yolk, and sugar.

★ **Don't be fooled by "buzz" words on food packaging**. You may see lots of words on the front of a food package that make you think it's healthy, like "all natural", "good source of Vitamin D" or "low fat." Some of these foods are high in sodium or sugar. Always check the Nutrition Facts label to be sure you get the whole story.

★ **Need some practice reading Nutrition Facts labels?** The Food and Drug Administration (FDA) has an online tutorial to help you learn how to use all the information on a Nutrition Facts label. The tutorial can be found at:

http://www.accessdata.fda.gov/scripts/InteractiveNutritionFactsLabel/#intro

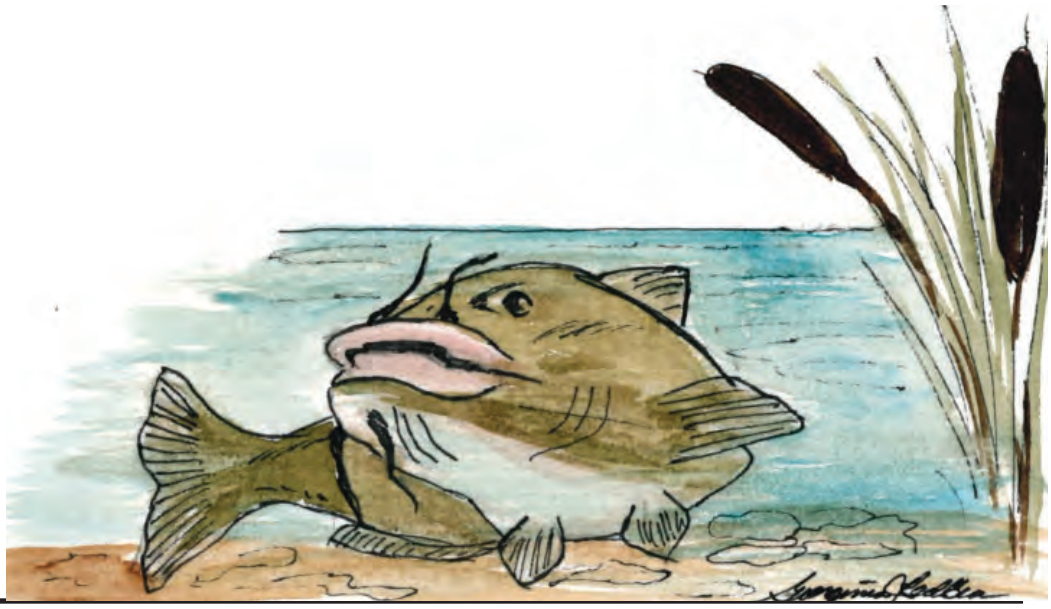
Shopping (Wópȟetȟuŋpi) with a List

You will learn more about meal planning and food budgeting in Lesson 8. However, shopping with a grocery list is a good habit to adopt to help with meal planning and food budgeting. Some of the benefits of shopping with a grocery list are:

1. **Shopping with a grocery list helps save money.** Sticking to your list helps you avoid impulse purchases. Impulse purchases are budget busters.
2. **Shopping with a grocery list helps you eat healthy.** Many impulse purchases have limited nutritional value (for example, chips, ice cream, cookies, crackers, pop). Sticking to your list helps you avoid purchasing these foods.
3. **Shopping with a grocery list can be used as a tool for meal planning.** Take some time to think about what you need for meals for the week by taking inventory of staples that you have in your house and researching new or well-loved recipes.
4. **Shopping with a grocery list saves time.** You won't have to spend time thinking about what you should have for dinner tonight while grocery shopping (since meals and needed ingredients were determined before going to the grocery store). You are also able to stick to the aisles that have the food on your list.
5. **Shopping with a grocery list helps avoid food waste**. You have a list and only purchase what you plan to use.

Tips for Developing a Grocery Shopping (Wóphethuŋpi) List

- ★ Group similar foods together (for example, list all fresh fruits and vegetables together; list all fresh proteins together; list all frozen foods together; list all canned goods together). This will help to avoid having to take multiple passes down each aisle when shopping. An example template list is provided in this lesson.
- ★ Some people find it helpful to keep their grocery list in a central location (for example, on the refrigerator or in a kitchen drawer) and add to it as they use up staple food items.
- ★ You don't have to create a shopping list in one sitting. Many people keep an on-going list throughout the week—adding foods to the list as needed. Encourage family (thiwáhe) members to participate in adding to the grocery list if they use up staple food items.
- ★ If there are foods that you must have every week (for example, milk or bread), give yourself a reminder by making them a permanent part of your list.



Example Grocery List

Here is an example of a grocery list. Feel free to use this when shopping - or use it as a template to create a grocery list style that works for you.

Fresh Fruits (Waskúyeča) & Vegetables (Watȟóthoka)

Frozen Fruits (Waskúyeča) & Vegetables (Watȟóthoka)

Canned Fruits (Waskúyeča) & Vegetables (Watȟóthoka)

Canned Legumes & Beans (Omníča)

Milk (Asáŋpi) & Dairy Products

Fresh Meat (Tȟaló) & Eggs

Frozen Meat (Tȟaló) & Fish

Canned Meat (Tȟaló) & Fish

Nuts (nut butters) & Dried Beans (Omníča)

Grains (Pȟeží íŋkpa)

Seasonings (Wíčahiyutapi)

Sugars/Sweets

Oils

Other

Challenge Yourself!

Set a Goal

Choose (kaȟníğa) one of the goals below (or set your own) to try during the next month:

- ❒ I will inventory my current pantry and make a list of items I may wish to stock up on.
- ❒ I will compare Nutrition Facts labels to make healthy choices.
- ❒ I will pay attention to unit pricing when selecting food items.
- ❒ I will create one of the recipes from the cook book at home.
- ❒ I will:

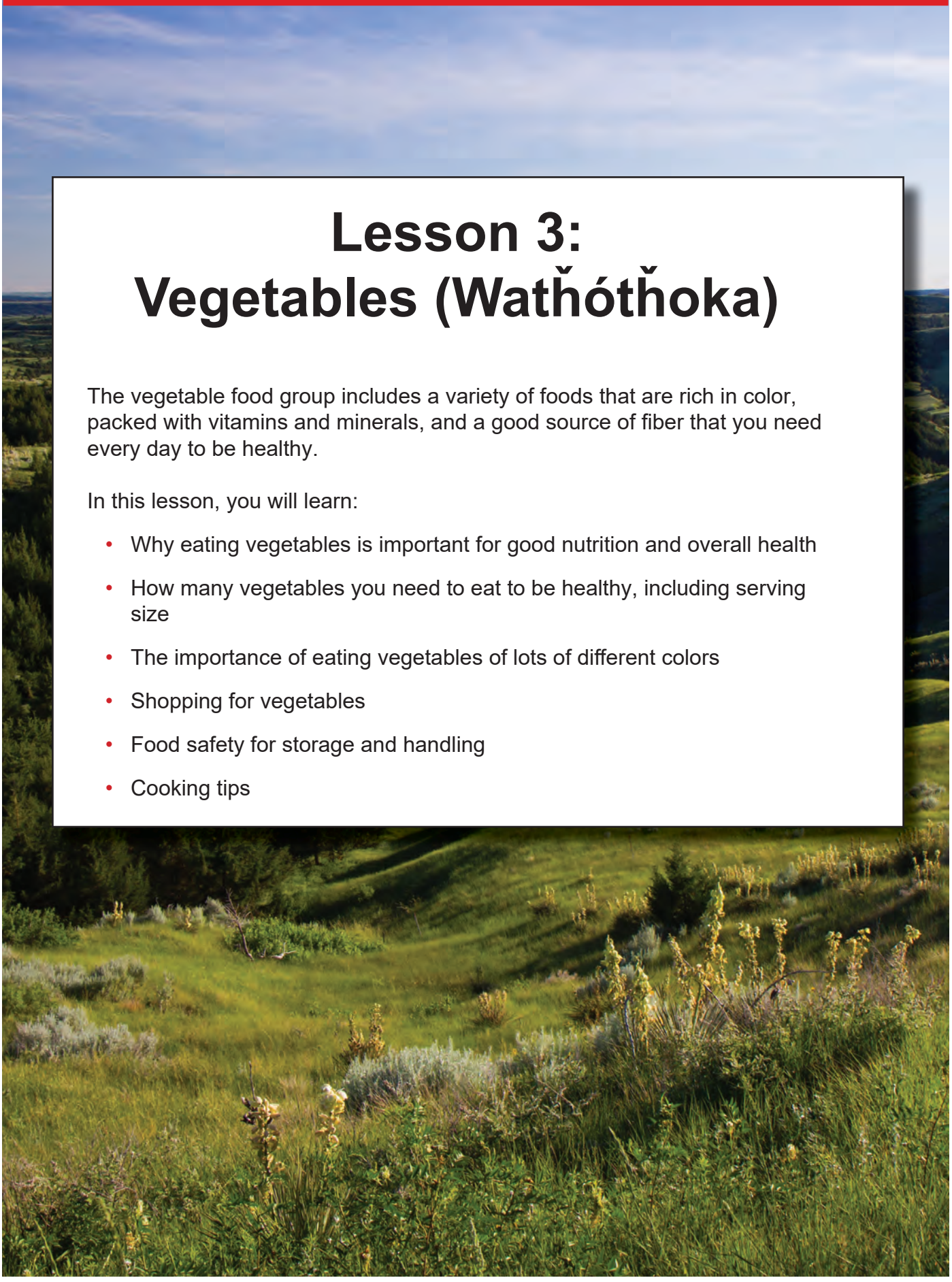
_____

_____

_____

_____

_____



Lesson 3: Vegetables (Waȟóthoka)

The vegetable food group includes a variety of foods that are rich in color, packed with vitamins and minerals, and a good source of fiber that you need every day to be healthy.

In this lesson, you will learn:

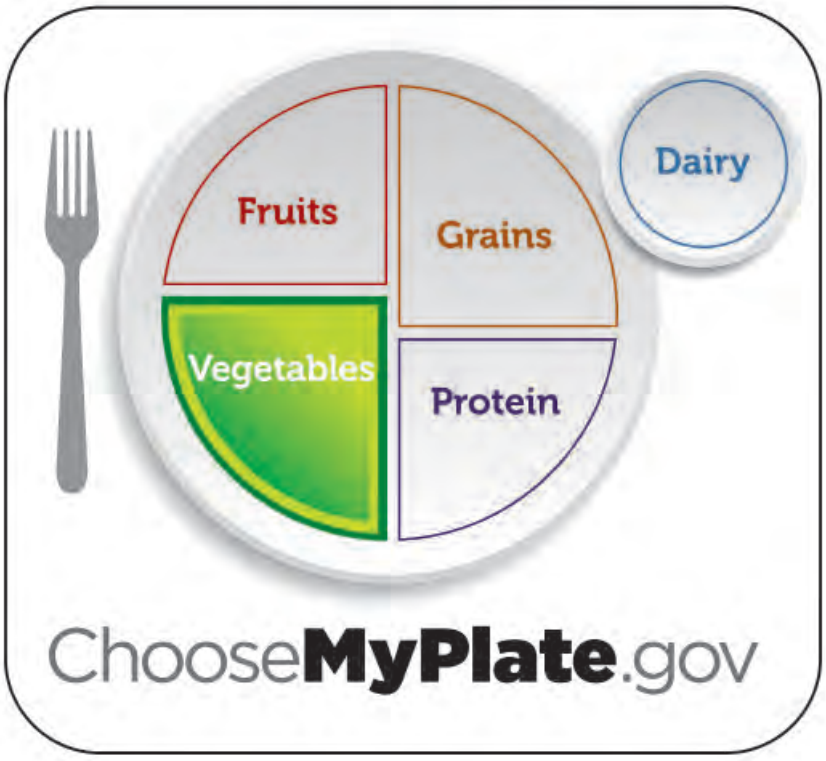
- Why eating vegetables is important for good nutrition and overall health
- How many vegetables you need to eat to be healthy, including serving size
- The importance of eating vegetables of lots of different colors
- Shopping for vegetables
- Food safety for storage and handling
- Cooking tips

Why Eating Vegetables (Waȟóthoka) is Important

Vegetables are full of vitamins and minerals that keep us healthy. It is important to **make ¼ of your plate vegetables** at meal time and to **eat a variety** of vegetables from the five vegetable color groups:

- Red
- Orange and yellow
- White
- Green
- Blue and purple

Vegetables can be canned, dried, fresh, frozen, or a juice.



Diabetes Hints… Vegetables

Healthy eating with diabetes starts with what is on your plate. Most vegetables won't raise blood sugar. Vegetables that raise blood sugar are corn, peas, potatoes, pumpkin, and winter squash. Approximately ¼ to ½ of your meal plate should be from the vegetable group.

- **BLOOD SUGAR ALERT** – Corn, peas, potatoes, pumpkin, and winter squash raise blood sugar. Other vegetables will not raise blood sugar.
- **BENEFITS** – help you feel full and are a good source of vitamins and fiber.

- **VEGETABLES TO TRY (COOKED OR RAW)** – beets, broccoli, carrots, cauliflower, cucumbers, green beans, leafy greens, radishes, kale, spinach, summer squash, & zucchini.
- **EATING TIPS FOR A MEAL OR SNACK** –
  - Try roasting vegetables and adding spices, herbs and oils for great flavor.
  - Enjoy fresh in-season vegetables, or frozen or canned vegetables.
  - Keep washed and prepared fresh vegetables in the refrigerator for snacks and to use in meals.
  - Put together different combinations of vegetables for salads or to cook in the oven, grill, or on the stovetop.
  - Try using vegetables in place of breads or grains to reduce or eliminate carbohydrates.
    - Spiraled zucchini works great as spaghetti noodles. Spiraled sweet potatoes and summer squash are also delicious.
    - Cauliflower can be cooked and mashed to replace potatoes or used as a pizza crust.
    - Use lettuce or other greens as a wrap in place of a tortilla shell, bun, or slice of bread.
  - Carbohydrate counting for vegetables (source: American Dietetic Association)
    - ½ cup of beans, peas, corn, sweet potatoes, winter squash, mashed potatoes, or boiled potatoes each equal about 15 grams of carbohydrate.
    - 1 cup of raw vegetables or ½ cup of cooked non-starchy vegetables equal zero carbohydrate servings or "free" foods. If you eat 3 or more vegetable servings at one time, count them as 1 carbohydrate serving.

Eating Vegetables (Waȟóȟoka) Will Help You Stay Healthy

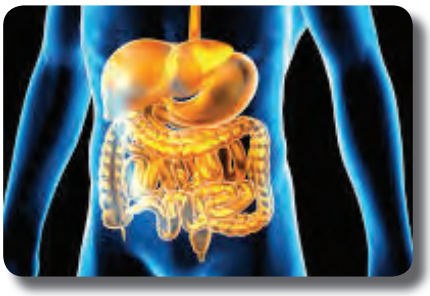
At meal time, fill ¼ of your plate with vegetables and eat them with limited additions (salt, butter, or cream sauces). When purchasing vegetables, select frozen or canned options that are lower in sodium and buy vegetables from all of the color groups.

Check out what each vegetable color can do for you…

RED	ORANGE/YELLOW	WHITE	GREEN	BLUE/PURPLE
• Improved memory • Healthy heart • Lower risk for some cancers	• Sharp vision • Healthy heart • Strength to fight off colds and illnesses • Lower risk for some cancers	• Healthy heart	• Sharp vision • Strong bones and teeth • Lower risk for some cancers	• Good memory • Healthy aging • Lower risk for some cancers

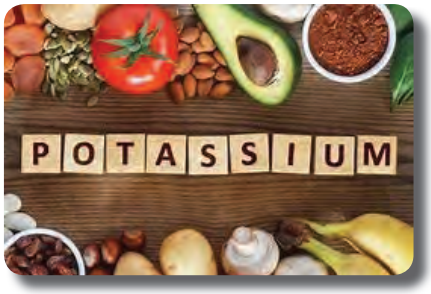
Nutrients in Vegetables (Watȟóthoka) Include:

- Dietary Fiber
- Potassium
- Vitamin A
- Vitamin K



Dietary Fiber – prevents constipation and helps the body absorb nutrients; also helps to lower blood cholesterol levels and control blood sugar. Dietary fiber is found in most vegetables and legumes (peas & beans).

Potassium – helps regulate blood pressure, heart function, and good fluid balance in the body; also helps muscles and the nervous system function properly. Potassium is found in many starchy vegetables.



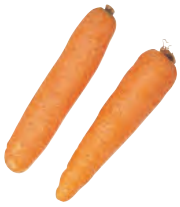
Vitamin A – helps with vision, and the formation and maintenance of healthy skin, bones, and red blood cells. Vitamin A is found in many red and orange vegetables.

Vitamin K – helps the blood clot properly; also helps to build strong bones. Vitamin K is found in many dark-green vegetables.

Vegetables by Color:

Dark-Green Vegetables

- Broccoli
- Collard greens
- Dark-green leafy lettuce
- Endive
- Kale
- Mixed greens
- Romaine lettuce
- Spinach
- Turnip greens



Red and Orange Vegetables

- Acorn squash
- Bell peppers
- Butternut squash
- Carrots
- Hubbard squash
- Pumpkin
- Red chili peppers
- Red peppers, sweet
- Sweet potatoes
- Tomatoes
- 100% vegetable juice

Starchy Vegetables

- Corn
- Green bananas
- Lima beans
- Green peas
- Parsnips
- Potatoes, white
- Water chestnuts
- Yams

Legumes, Beans and Peas*

- Black beans
- Black-eyed peas (mature, dry)
- Chickpeas (garbanzo beans)
- Hummus (chickpea spread)
- Kidney beans
- Lentils
- Lima beans
- Navy beans
- Pinto beans
- Soy beans
- Split peas
- White beans

Other Vegetables

- Alfalfa sprouts
- Artichokes
- Asparagus
- Avocado
- Bean sprouts
- Beets
- Brussel sprouts
- Cabbage
- Cauliflower
- Celery
- Cucumbers
- Eggplant
- Garlic
- Green beans
- Green peppers
- Leeks
- Lettuce, iceberg
- Mushrooms
- Okra
- Onions
- Radishes
- Red cabbage
- Scallions
- Snow peas
- Turnips
- Wax beans
- Yellow squash
- Zucchini

*Beans and peas are also part of the Protein Foods Group Source: https://www.choosemyplate.gov/vegetable-group-food-gallery

Challenge Yourself!

Take a moment and think about the vegetables you eat…
What different color vegetables did you eat in the last week?

1. Vegetables I ate in the last week…

2. Other vegetables I would like to try…

How Many Vegetables (Watȟóthoka) Do You Need Each Day to Be Healthy?

The amount of vegetables you need to eat depends on your:

- sex
- age
- level of physical activity

Below are the daily recommendations for vegetable consumption for people who get less than 30 minutes of moderate physical activity (such as brisk walking) per day. Those who are more (or less) physically active should talk to their doctor about how many vegetables they need to eat to be healthy.

Daily Vegetable Needs		
Children	2-3 years old 4-8 years old	1 cup 1½ cups
Girls	9-13 years old 14-18 years old	2 cups 2½ cups
Boys	9-13 years old 14-18 years old	2½ cups 3 cups
Women	19-30 years old 31-50 years old 51+ years old	2½ cups per day 2½ cups per day 2 cups per day
Men	19-30 years old 31-50 years old 51+ years old	3 cups per day 3 cups per day 2½ cups per day

Weekly Vegetable Needs

	Age	Dark Green Vegetables	Red and Orange Vegetables	Beans and Peas	Starchy Vegetables	Other Vegetables
Children	2-3 years old 4-8 years old	½ cup 1 cup	2½ cups 3 cups	½ cup ½ cup	2 cpus 3½ cups	1½ cups 2½ cups
Girls	9-13 years old 14-18 years old	1½ cups 1½ cups	4 cups 5½ cups	1 cup 1½ cups	4 cups 5 cups	3½ cups 4 cups
Boys	9-13 years old 14-18 years old	1½ cups 2 cups	5½ cups 6 cups	1½ cups 2 cups	5 cups 6 cups	4 cups 5 cups
Women	19-30 years old 31-50 years old 51+ years old	1½ cups 1½ cups 1½ cups	5½ cups 5½ cups 4 cups	1½ cups 1½ cups 1 cup	5 cups 5 cups 4 cups	4 cups 4 cups 3½ cups
Men	19-30 years old 31-50 years old 51+ years old	2 cups 2 cups 1½ cups	6 cups 6 cups 5½ cups	2 cups 2 cups 1½ cups	6 cups 6 cups 5 cups	5 cups 5 cups 4 cups

Vegetable subgroup recommendations are given as amounts to eat WEEKLY. It is not necessary to eat vegetables from each subgroup daily. However, over a week, try to consume the amounts listed from each subgroup as a way to reach your daily intake recommendation.

Add More Vegetables to Your Day

It's easy to eat more vegetables! Eating vegetables is important because they provide vitamins and minerals and most are low in calories. To fit more vegetables in your day, try them as snacks and add them to your meals.

1 Discover fast ways to cook

Cook fresh or frozen vegetables in the microwave for a quick-and-easy dish to add to any meal. Steam green beans, carrots, or cauliflower in a bowl with a small amount of water in the microwave for a quick side dish.

2 Be ahead of the game

Cut up a batch of bell peppers, cauliflower, or broccoli. Pre-package them to use when time is limited. Enjoy them in a casserole, stir-fry, or as a snack with hummus.

3 Choose rich colors

Brighten your plate with vegetables that are red, orange, or dark green. They are full of vitamins and minerals. Try acorn squash, cherry tomatoes, sweet potatoes, or kale. They not only taste great, but are good for you, too.

4 Check the freezer aisle

Frozen vegetables are quick and easy to use and are just as nutritious as fresh. Try adding frozen vegetables, such as corn, peas, carrots, or spinach, to your favorite dish. Look for frozen vegetables without added sauces, gravies, butter, or cream.

5 Stock up on veggies

Canned vegetables are a great addition to any meal, so keep on hand canned tomatoes, kidney beans, garbanzo beans, mushrooms, and beets. Select those labeled as "reduced sodium," "low sodium," or "no salt added."

6 Enjoy salads with color

Brighten your salad by using colorful vegetables, such as black beans or avocados, sliced red bell peppers or onions, shredded radishes or carrots, and chopped red cabbage or kale. Your salad will not only look good, but taste good too.

7 Sip on some vegetable soup

Heat it and eat it. Try tomato, butternut squash, or garden vegetable soup. Look for reduced- or low- sodium soups. Make your own soups with a low-sodium broth and your favorite vegetables.

8 While you're out

If dinner is away from home, no need to worry. When ordering, ask for an extra side of vegetables or a side salad instead of the typical fried side dish. Ask for toppings and dressings on the side.

9 Savor the flavor of the season

Buy vegetables that are in season for maximum flavor at a lower cost. Check your local grocery store for specials on the best in-season buys. Or visit your local farmers market.

10 Vary your veggies

Choose a new vegetable that you've never tried before. Find recipes online at WhatsCooking.fns.usda.gov.

Adapted From: USDA Dietary Guidelines Tip Sheet No. 2 June 2011, Revised October 2016

What Equals as a Serving of Vegetables?

1 cup of raw or cooked vegetables or vegetable juice, or **2 cups of raw leafy greens equal 1 cup of vegetables.** Depending on age, women should consume 2-2½ cups and men should consume 2½-3 cups of vegetables per day as part of a healthy diet. See the table below for what equals a one cup serving.

Vegetables	1 Cup Servings
Broccoli	1 cup, chopped or florets 3 spears, 5" long raw or cooked
Spinach	1 cup, cooked or 2 cups, raw
Raw leafy greens: Spinach, romaine, watercress, dark green leafy lettuce	2 cups, raw
Carrots	1 cup, strips, slices, or chopped, raw or cooked 2 medium whole or 1 cup baby carrots (about 12)
Pumpkin	1 cup, mashed, cooked
Red peppers	1 large or 1 cup, chopped, raw, or cooked
Tomatoes	1 large raw whole or 1 cup, chopped/sliced, raw, canned, or cooked
Sweet potato	1 large baked or 1 cup, sliced or mashed, cooked
Dry beans and peas (such as black, garbanzo, kidney, pinto, or soy beans, or black-eyed peas or split peas)	1 cup, whole or mashed, cooked
Corn, yellow or white	1 cup or 1 large ear
White potatoes	1 cup, diced or mashed or 1 medium boiled or baked
Celery	2 stalks or 1 cup, diced or sliced, raw or cooked
Lettuce, iceberg or head	2 cups, raw, shredded or chopped
Onions	1 cup, chopped, raw or cooked
Summer squash or zucchini	1 cup, cooked, sliced or diced

Food Selection Tips
From the CRST Diabetes Program

Know your portion size. Portion size matters and is part of keeping track of your total carbs, fat, sodium, and calories.

Vegetables

- Incorporate more vegetables in your diet. Try for at least 4 – 6 servings a day.
- Make your plate as colorful as possible.
- Vegetables contain very few carbohydrates.

Talk with a registered dietitian to help you plan a healthy diet and better manage your diabetes.

How to Shop for Vegetables (Watȟóthoka)

Vegetables can be bought three ways: fresh, frozen, or canned.

Fresh vegetables are a great addition to meals or snacks. Select clean vegetables that have good color and a fresh appearance, and avoid vegetables that are bruised, shriveled, mushy, wilted or moldy. Fresh vegetables will not store long so it is recommended to only purchase what you will use in a week.

Frozen vegetables are quick and easy to use, and are just as nutritious as fresh vegetables. Try adding frozen vegetables, such as corn, peas, edamame, or spinach, to your favorite dish. Look for frozen vegetables without added sauces, gravies, butter, or cream. Only buy frozen, bagged vegetables that are loose in the bag. When frozen vegetables are in a large clump, it indicates they have been thawed and then re-frozen--which can be a food quality and potential food safety problem.

Canned vegetables are a great addition to any meal, so keep on hand canned tomatoes, kidney beans, garbanzo beans, mushrooms, and beets. Select those labeled as "reduced sodium," "low sodium," or "no salt added." To avoid food safety problems, don't buy cans that are dented or scratched up.

Buying and Storing Fresh Vegetables

Fresh Vegetable	How to Buy	How to Store
Beets	Buy bright colored, firm beets. If stems/greens are still attached, they should look fresh and not wilted.	If stems/greens are still attached, remove and store separately (greens can be eaten). Refrigerate beets for 2-3 weeks.
Broccoli	Buy sturdy, dark green spears without yellow spots.	Refrigerate in a plastic bag for 3–5 days.
Carrots	Buy brightly colored, firm carrots without shriveled or soft spots.	Refrigerate in a plastic bag for 3–5 days.
Cabbage	Buy fresh-looking heads without yellowing or brown spots.	Refrigerate in a plastic bag for 1–2 weeks.
Cauliflower	Buy heads with bright white florets without any browning. The attached greens should look fresh and not wilted.	Refrigerate in a plastic bag for 3–5 days.
Celery	Buy crisp stalks (not wilted or limp) without any blemishes.	Refrigerate in a plastic bag for 1–2 weeks.
Corn	Buy in husks that are moist and green. The silk attached at the tip should be golden brown. Instead of peeling back the husks, which can dry out the corn, feel through the husks for plump kernels underneath.	Refrigerate, with husks still on, in a plastic bag for up to 2 days.
Cucumber	Buy firm without any soft spots.	Refrigerate in a plastic bag for 3–5 days.
Garlic	Buy with papery skin without any green sprouts.	Store in a cool, dark place (away from potatoes) for 2–3 weeks.
Lettuce or Salad Greens	Buy crisp-looking greens without signs of mold or browning.	If damp when purchased, dry first. Refrigerate in a plastic bag for 3–5 days. Place a dry paper towel in the bag to absorb any extra moisture.
Mushrooms	Buy firm and fresh looking. They should look dry, but not dried out.	Refrigerate for up to 1 week. If you buy loose, place in a paper bag first.
Onion	Buy firm and heavy without cuts, bruises, or green sprouts.	Store in a cool, dark place (away from potatoes) for 2–3 weeks.
Potatoes	Buy firm and free from soft spots and sprouts.	Store in a cool, dark place (away from onions) for 10–12 weeks.
Summer Squash (example: yellow squash, zucchini)	Buy with firm, smooth skin without any gashes.	Store in a cool, dark place (away from onions) for 10–12 weeks.
Sweet Potatoes	Buy with papery skin without blemishes.	Store in a cool, dark place (away from onions) for 10–12 weeks.
Tomatoes	Should yield to gentle pressure, but not be soft. Take a whiff — if it doesn't smell like a tomato, it won't taste like one.	Store at room temperature for 2–3 days.
Turnips	Buy when firm. Should not feel soft or look shriveled.	Refrigerate for 2–3 weeks.
Winter Squash	Buy hard squash that still has some of the dried-out stem attached.	Store in a cool, dry place for up to 1 month.

How to Weigh and Calculate the Price of Fresh Vegetables (Watȟóthoka)

Some vegetables have the price marked on them and other vegetables have a price per pound listed by them. This can be confusing and cause surprises when checking out at the cash register. Knowing how to weigh vegetables and calculate the price per pound will help you know what the vegetables cost before you get to the cash register.

To weigh a vegetable, place the item you want to purchase on the food scale located in the produce department. The food scale will show the weight of the vegetables which is what you need to do the math to calculate the cost.

Example:
3 Sweet Potatoes weigh 1½ lbs. or 1.5lbs. They cost $0.89 per pound. To calculate the cost, you take the price per pound and multiply by the weight.

$0.89 x 1.5lbs. = $1.34 cost plus tax

Challenge Yourself!

Weight of 1 onion: ¾ lbs. or .75 lbs.
Onion price: $1.29 per pound.

_____ x _____ = $_____ plus tax

Answer: cost of onion is $0.97

Which Is Cheaper: Fresh, Frozen or Canned Vegetables?

1 head of lettuce weighs 32 oz. and costs $1.39 → cost per oz. = $1.39/32 = $0.04 per oz. **Cheaper**

1 bag of lettuce weighs 8 oz. and costs $0.99 → cost per oz. = $0.99/8 = $0.12 per oz.

1 bag of fresh carrots costs $2.19 and weighs 32 oz. → cost per oz. = $2.19/32 = $0.07 per oz. **Cheaper**

1 can of carrots costs $1.39 and weighs 14.5 oz. → cost per oz. =$1.39/14.5 = $0.10 per oz.

1 bag of frozen carrots costs $1.59 and weighs 16 oz. → cost per oz. = $1.59/16= $0.10 per oz.

Challenge Yourself!

Calculate which is cheaper to find the unit price.

price of item _____ divided by _____ oz. = _____ cost per oz.

1 bag of frozen corn costs $1.69 and weighs 12 oz. cost per oz. = $_____

1 can of corn costs $1.09 and weighs 15 oz. cost per oz. = $_____

1 head of fresh broccoli costs $3.09 and weighs 32 oz. cost per oz. = $_____

1 bag of frozen broccoli costs $1.89 and weighs 14 oz. cost per oz. = $_____

Hint: Always compare prices at the grocery store to save $$$. Use unit pricing to see what is the cheapest.

Answer: frozen corn cost per oz. $0.14; canned corn cost per oz. $0.07 cheaper option; fresh broccoli cost per oz. $0.10 cheaper option; frozen broccoli cost per oz. $0.14

Seasonal Vegetables (Waṫhóṫhoka)

What does it mean to eat in season?

Eating in season is eating fresh foods that are harvested in your area not half-way around the world and shipped to your local grocery store.

Why is it good to eat in season?

Eating in season has many benefits, such as:

- **You may save money**. Food harvested in your area is cheaper to transport to your local grocery store than food grown overseas. When you eat fresh foods in season, you pay less for transportation costs.
- **Your food may taste better**. Foods grown and picked at their peak typically taste better. Compare the taste of a sweet corn in August to sweet corn in January. You may never go back!
- **You may get more nutrients from your food**. Produce starts to lose nutrients after it is picked. The longer the travel time to your grocery store, the more nutrients that are lost.

How can I eat more seasonal foods?

Try these tips for buying vegetables in season:

- **Know what is in season**. To check out what is in season in your state, click on your state on the map found here: www.simplesteps.org/eat or see the Best Time to Buy Seasonal Vegetables table on the following page.
- **Shop at a local farmers market**.
- **Look at the stickers on the vegetables at your store**. The sticker must state what country the food was grown in.

How can I still eat a variety of vegetables when seasonal produce is limited?

- **Eat vegetables in all their forms**. Buying canned or frozen is a great way to get plenty of vegetables year-round at a good price.
- **Use recipe substitutions**. Making a recipe in January that calls for summer squash? Use the vegetable substitution chart coming up to find a seasonal vegetable you can use instead.
- **Store vegetables** purchased at their peak (and at their cheapest!) for the less plentiful winter months.

Freezing Food Guide: https://www.ag.ndsu.edu/publications/food-nutrition/food-freezing-guide

Canning Food Guide: https://www.ag.ndsu.edu/food/food-preservation/canning

Drying Food Guide: https://www.ag.ndsu.edu/food/food-preservation/drying

Best Time to Buy Seasonal Vegetables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Bell Peppers												
Broccoli												
Cabbage												
Carrots												
Cauliflower												
Corn												
Cucumbers												
Lettuce												
Onions												
Potatoes												
Summer Squash												
Sweet Potatoes												
Tomatoes												
Winter Squash												

(Peak growing season for vegetables across the general United States)

Food Safety

Vegetables - All produce, regardless of where it was grown or purchased, should be thoroughly rinsed. However, any precut packaged items, like lettuce or baby carrots, labeled as prewashed and ready-to-eat do not need further rinsing.

- **Rinse** fresh vegetables under running water just **before eating, cutting, or cooking.**
- **Do not use soap** or detergent to clean vegetables.
- Even if you plan to **peel or cut** the vegetables before eating, it is still important to thoroughly rinse first to prevent bacteria from transferring from the outside to the inside of the vegetable.
- **Scrub the skin of produce** (sweet potatoes, potatoes, squash, and cucumbers) with a clean produce brush while rinsing under water. **Dry vegetables with a clean cloth or paper towel** to further reduce bacteria that may be present. Wet produce can allow remaining bacteria to multiply faster.

Preventing Cross-Contamination

When shopping:

Separate fresh vegetables from raw meat, poultry, and seafood in your grocery cart. Put fresh vegetables in plastic bags (available in produce section of store).

When refrigerating food:

Keep fresh vegetables away from and do not store under raw meat, poultry, and seafood. Keep meat, poultry, and seafood in containers or sealed plastic bags to prevent their juices from dripping onto other foods. Raw juices often contain harmful bacteria.

When preparing foods:

Wash hands and surfaces often: Harmful bacteria can spread throughout the kitchen and get onto cutting boards, utensils, and counter tops. To prevent contamination of foods, always wash hands with soap and hot water before and after handling food, and after using the bathroom, changing diapers, or touching pets.

Wash cutting boards, knives, utensils, dishes, and counter tops with hot, soapy **water after preparing each food item before moving onto the next item.**

Cutting boards and knives: Always use a clean cutting board and knife. **Always use one cutting board and knife for fresh vegetables and a separate one for raw meats**. When cutting boards become excessively worn or develop hard-to-clean grooves, replace them.

Vegetables: Rinse all fresh vegetables **with running water to remove visible dirt**. Remove and discard the outermost leaves of a head of lettuce or cabbage. Bacteria can grow on the cut surface of vegetables so be careful not to contaminate while slicing, and **avoid leaving cut produce at room temperature**.

For more information on food safety, go to http://www.fightbac.org/

Try Cooking Vegetables (Waȟóthoka) 3 Ways

Decide which way works best for you!

- **Stove Top**: Fill a pot with 1 ½ inches water. Add vegetables. Simmer until tender using the recommended cooking time from the chart below.
- **Oven**: Preheat oven to 450 degrees. Toss vegetables with 1 Tablespoon canola oil. Coat a baking sheet with non-stick cooking spray. Spread vegetables evenly on the baking sheet so they are not touching. Bake using the recommended cooking time from the chart below.
- **Microwave**: Place vegetables in a microwave-safe dish with lid or cover with plastic wrap. Vent cover (plastic wrap can be vented by poking a few holes in the plastic or folding back a small corner). Add 2 Tablespoons water. Microwave on high, using the recommended cooking time from the chart below.

Vegetables	Stove Top	Oven	Microwave*
Asparagus, zucchini, yellow squash	4–6 minutes	15–20 minutes	3–5 minutes
Beets, turnips	10–15 minutes	20–25 minutes	10–12 minutes
Broccoli, cauliflower, Brussel sprouts, cabbage	5–8 minutes	15–20 minutes	5–7 minutes
Carrots, parsnips (1½ pounds)	10–15 minutes	20–25 minutes	6–10 minutes
Celery root	10–15 minutes	20–25 minutes	4–6 minutes
Corn (4 ears)	5 minutes (on the cob)	15–20 minutes (off the cob)	7–9 minutes (on the cob)
Green beans	4–6 minutes	15–20 minutes	8–12 minutes
Snow peas, sugar snap peas	2–4 minutes	8–10 minutes	3–5 minutes
Spinach (1½ pounds)	2 minutes	—	2–4 minutes
Rutabaga, sweet potatoes, potatoes**	10–15 minutes	20–25 minutes	8–12 minutes
Winter squash (2 pounds)	15–25 minutes	25–35 minutes	8–12 minutes

*Microwave temperatures can vary. Check your vegetables often. Note what times work best for your microwave.

**Sweet potatoes or white potatoes can also be cooked whole. Poke them with a fork in several places. Microwave on medium, turning once or twice, about 20 minutes for white potatoes and 12–15 minutes for sweet potatoes. Or, bake in the oven at 400°F for 45–60 minutes.

Vegetable (Watȟótȟoka) Substitutions

If you don’t have a vegetable on hand that a recipe calls for, substitute a different one.

Instead of...	If Using Raw, Sub in...	if Using Cooked, Sub in...
Broccoli	Cauliflower	Cauliflower, spinach, dark leafy greens
Carrots	Beets, celery root, summer squash, celery	Root vegetables, summer squash, celery
Dark leafy greens (kale, chard, collards, turnip, beet, and mustard greens)	Spinach, lettuce, cabbage	Spinach, broccoli, cabbage
Eggplant	No good sub	Zucchini, yellow squash, sweet peppers
Mushrooms	Summer squash	Snow peas, sugar snap peas, summer squash
Potatoes	No good sub	Sweet potato, root vegetables, carrots
Root vegetables (turnips, beets, rutabaga, celery root)	Sweet potatoes, carrots	Sweet potatoes, winter squash, carrots, parsnips
Spinach	Lettuce	Dark leafy greens, broccoli, cabbage
Summer squash (zucchini, yellow squash)	Sweet peppers, carrots	Eggplant, sweet peppers
Sweet potatoes	Cabbage, root vegetables, carrots	Root vegetables, carrots, winter squash, parsnips
Winter squash	No good sub	Sweet potatoes, root vegetables, parsnips, carrots

Take the $10 Challenge!

Choose at least one item from each MyPlate food group. Make sure your total cost is $10 or less.

Food Group	Tips	Name of Item	Price of Your Item
Grains 	• Look for whole grain breads, cereals, rice, pastas, crackers, tortillas, or other foods made with grain. • Check the ingredient list to make sure a whole grain is listed first.		
Fruits 	• Look for fresh fruits on sale or in season. • Try fruit canned in 100% juice. • Try frozen fruit with no added sugar.		
Vegetables 	• Look for fresh vegetables on sale or in season. • Try canned vegetables that say "low sodium" or "no salt added." • Try frozen vegetables with no added fat or sodium.		
Protein 	• Try buying eggs, beans, or canned fish for an inexpensive source of protein.		
Dairy 	• Look for dairy products made with 1% or nonfat milk.		
		Total ($10 or less)	$__.__

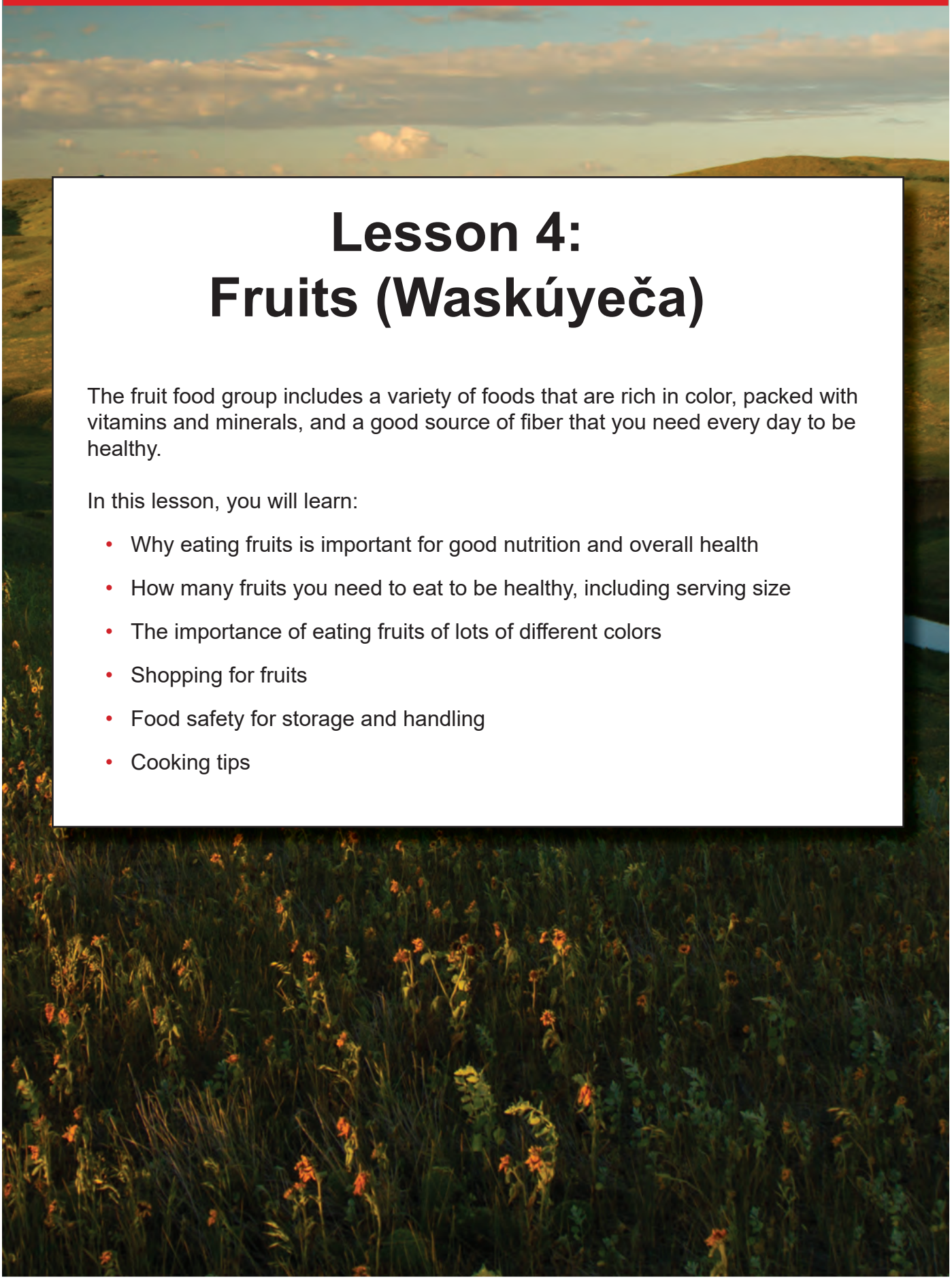
Challenge Yourself!

Set a Goal

Choose (kaȟníǧa) one of the goals below (or set your own) to try during the next month:

- ❒ I will try a new vegetable that I haven't eaten before.
- ❒ I will vary the color of vegetables that I eat for the week.
- ❒ I will use the food scale at the grocery store to weigh a vegetable and calculate what it costs per pound.
- ❒ I will make a recipe from this lesson.
- ❒ I will: _____

  _____



Lesson 4:
Fruits (Waskúyeča)

The fruit food group includes a variety of foods that are rich in color, packed with vitamins and minerals, and a good source of fiber that you need every day to be healthy.

In this lesson, you will learn:

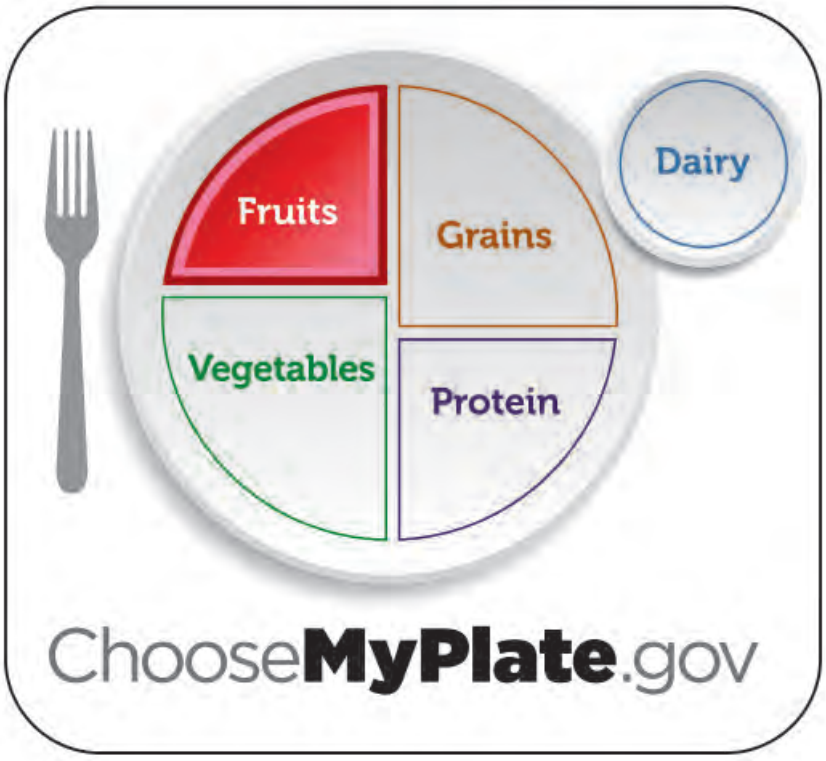
- Why eating fruits is important for good nutrition and overall health
- How many fruits you need to eat to be healthy, including serving size
- The importance of eating fruits of lots of different colors
- Shopping for fruits
- Food safety for storage and handling
- Cooking tips

Why Eating Fruits (Waskúyeča) is Important

Fruits are full of vitamins and minerals that keep us healthy. It is important to **make ¼ of your plate fruits** at meal time and to **eat a variety** of fruits from the five fruit color groups:

- red
- orange and yellow
- white
- green
- blue and purple

Fruits can be canned, dried, fresh, frozen, or a juice.



Diabetes Hints… Fruits

Healthy eating with diabetes starts with what is on your plate. **Fruits will raise your blood sugar a lot, especially dried fruit and juice**. Paying attention to **serving size is very important** when eating fruits. Approximately ¼ of your meal plate should be from the fruit group.

- **BLOOD SUGAR ALERT** – Fruits will raise blood sugar, especially dried fruit and fruit juice. Following serving size recommendations is very important when eating fruits.
- **BENEFITS** – Help you feel full and are a good source of vitamins and fiber.
- **SHOPPING** – When buying fruit juice or canned fruits, read the Nutrition Facts label to make sure there is no added sugar. Select canned fruits without added sugar.
- **FRUITS TO TRY** – One small apple, apricot, banana, orange, or peach; or one small bowl of berries, grapes, melon, or pineapple.
- **EATING TIPS FOR A MEAL OR SNACK** –
  - Fruits without added sugar are best. Try fresh fruits, canned fruits in their own juice, and plain frozen fruit.
  - Enjoy a small serving of fruit for dessert.
  - Spread your fruit servings throughout the day to help avoid blood sugar spikes.
  - Keep washed and prepared fresh fruits in the refrigerator or in a bowl on the counter for snacks and to use with meals.
  - Put together different combinations of fruits for salads.
  - Add a little fruit to lettuce or other vegetable salad.
  - The fruits below have approximately 15 grams of carbohydrates:
    - 1 small fresh fruit (4 ounces)
    - ½ cup canned fruit
    - ¼ cup dried fruit (2 Tablespoons)
    - 17 small grapes (3 ounces)
    - 1 cup melon or berries
    - 2 Tablespoons raisins
    - ½ cup fruit juice (make sure it is 100% fruit juice)
      - ✓ Check your serving sizes with measuring cups and spoons or a food scale.
      - ✓ The Nutrition Facts label includes sugars in the listed grams of total carbohydrate.

(Source: American Dietetic Association)

Eating Fruits (Waskúyeča) Will Help You Stay Healthy

At meal time, fill ¼ of your plate with fruit. Eat fruit without added sugar and limit other additions (cool whip, cream, flavored yogurt, Jell-O, pudding, pie filling). When purchasing fruits, select frozen or canned options that do not contain added sugar. Buy fruits from all of the color groups.

Check out what each fruit color can do for you…

RED	ORANGE/YELLOW	WHITE	GREEN	BLUE/PURPLE
• Improved memory • A healthy heart • Lower risk for some cancers	• Sharp vision • A healthy heart • Strength to fight off colds and illnesses • Lower risk for some cancers	• Healthy heart	• Sharp vision • Strong bones and teeth • Lower risk for some cancers	• Good memory • Healthy aging • Lower risk for some cancers

Nutrients in Fruits (Waskúyeča) Include:

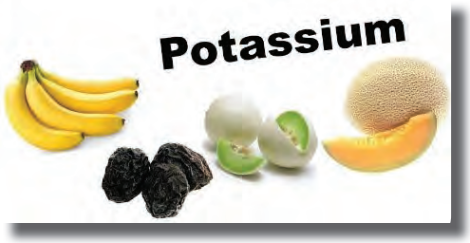
- Vitamin C
- Potassium
- Fiber
- Folate (folic acid)

Potassium – helps regulate blood pressure, heart function, and good fluid balance in the body; also helps muscles and the nervous system function properly. Potassium is found in bananas, prunes, cantaloupe, honeydew, orange juice, dried peaches, and apricots.

Folate (Folic Acid) – helps form red blood cells. Women who may become pregnant should consume folate to reduce the risk of birth defects during baby's development. Folate is found in oranges, bananas, cantaloupe, and papaya.

Vitamin C – is important for growth and repair of all body tissues. It helps heal cuts and wounds, and keeps teeth and gums healthy. Vitamin C is found in many different fruits including oranges, grapefruit, kiwi, pineapple, mango, cantaloupe, and strawberries.

* Vitamin C can interact with some types of medication. Talk to your healthcare provider to see if this applies to your medications.



Dietary Fiber – prevents constipation and helps the body absorb nutrients; also helps to lower blood cholesterol levels and control blood sugar. Dietary fiber is found in whole and cut-up fresh fruits. Fruit juices contain little or no fiber.

Fruits by Type:

Berries

- Blackberries
- Blueberries
- Cranberries
- Currants
- Huckleberries
- Mulberries
- Raspberries
- Strawberries

100% Fruit Juice

- Apple juice
- Cranberry juice
- Grape juice
- Grapefruit juice
- Mango juice
- Orange juice
- Papaya juice
- Pineapple juice
- Pomegranate juice
- Prune juice

Melons

- Cantaloupe
- Honeydew
- Watermelon

Other Fruits

- Apples
- Apricots
- Bananas
- Cherries
- Dates
- Figs
- Fruit cocktail
- Grapefruit
- Grapes
- Guava
- Kiwi fruit
- Lemons
- Limes
- Mangoes
- Nectarines
- Oranges
- Papaya
- Peaches
- Pears
- Persimmons
- Pineapple
- Plums
- Pomegranate
- Prunes
- Raisins
- Star fruit
- Tangerines

Tip! There is no need to add sugar to fruits because they are naturally sweet. Fructose is the natural sugar found in fruit that is responsible for the sweet flavor.

Source: https://www.choosemyplate.gov/fruit-group-food-gallery

For the Best Nutritional Value, Choose:

- Whole or cut-up fruit (rather than juice) because it has more dietary fiber.
  - Example: grams of dietary fiber
    - apple with peel: 3.3 grams
    - apple without peel: 1.7 grams
    - ½ cup apple sauce: 1.5 grams
    - ¾ cup apple juice: 0.2 grams

- Fruits higher in potassium, such as bananas, prunes and prune juice, dried peaches, apricots, and orange juice.
- Canned fruits that are in 100% fruit juice or water. Avoid canned fruits in heavy or light syrup.
- Different types of fruits contain different nutrients so consume a wide variety of fruits as part of a healthy diet.

Challenge Yourself!

Take a moment and think about the fruits you eat…What colors and types of fruits did you eat in the last week?

1. Fruits I ate in the last week…

2. Other fruits I would like to try…

How Many Fruits (Waskúyeča) Do You Need Each Day to Be Healthy?

The amount of fruits you need to eat depends on your:

- sex
- age
- level of physical activity

Below are the daily recommendations for fruit consumption for people who get less than 30 minutes of moderate physical activity (such as brisk walking) per day. Those who are more (or less) physically active should talk to their doctor about how many fruits they need to eat to be healthy.

Daily Fruit Needs		
Children	2-3 years old 4-8 years old	1 cup 1 to 1½ cups
Girls	9-13 years old 14-18 years old	1½ cups 1½ cups
Boys	9-13 years old 14-18 years old	1½ cups 2 cups
Women	19-30 years old 31-50 years old 51+ years old	2 cups 1½ cups 1½ cups
Men	19-30 years old 31-50 years old 51+ years old	2 cups 2 cups 2 cups

Add More Fruit to Your Day

Eating fruit provides health benefits. People who eat more vegetables and fruits as part of an overall healthy diet are likely to have a reduced risk of some chronic diseases. Fruits provide nutrients vital for health, such as potassium, dietary fiber, vitamin C, and folate. Focus on whole fruits—fresh, canned, frozen, or dried—instead of juice.

1 Keep visible reminders
Keep a bowl of ready-to-eat whole fruit on the table, counter, or in the refrigerator.

2 Experiment with flavor
Buy fresh fruits in season when they may be less expensive and at their peak flavor. Use fruits to sweeten a recipe instead of adding sugar.

3 Think about variety
Buy fruits that are fresh, dried, frozen, and canned (in water or 100% juice) so that you always have a supply on hand.

4 Don't forget the fiber
Choose whole or cut-up fruit, rather than juice for the benefits that dietary fiber provides.

5 Include fruit at breakfast
At breakfast, top your cereal with bananas, peaches, or strawberries; add blueberries to pancakes; drink 100% orange or grapefruit juice. Or, try a fruit mixed with fat-free or low-fat yogurt.

6 Try fruit at lunch
At lunch, pack a tangerine, banana, or grapes to eat or choose fruits from a salad bar. Individual containers of fruits like peaches or applesauce are easy to carry and convenient for lunch.

7 Enjoy fruit at dinner, too
At dinner, add crushed pineapple to coleslaw or include orange sections, dried cranberries, or grapes in a tossed salad.

8 Snack on fruits
Fruits make great snacks. Try dried fruits mixed with nuts or whole fruits, like apples. They are easy to carry and store well.

9 Be a good role model
Set a good example for children by eating fruit every day with meals or as snacks.

10 Keep fruits safe
Rinse fruits before preparing or eating them. Under clean, running water, rub fruits briskly to remove dirt and surface microorganisms. After rinsing, dry with a clean towel.

Adapted From: USDA Dietary Guidelines Tip Sheet No. 3 June 2011, Revised October 2016

What Equals as a Serving of Fruit?

1 cup of fruit or 100% fruit juice, or ½ cup of dried fruit equals 1 cup of fruit. Depending on age, women should consume 1 ½ to 2 cups and men should consume 2 cups per day as part of a healthy diet. See the table below for what equals a one cup serving.

Fruits	Serving Size
Apple	½ large (3 ¼" diameter) 1 small (2 ¼" diameter) 1 cup, sliced or chopped, raw or cooked
Applesauce	1 cup
Banana	1 cup, sliced 1 large (8" to 9" long)
Cantaloupe	1 cup, diced or melon balls
Grapes	1 cup, whole or cut up 32 seedless grapes
Grapefruit	1 medium (4" diameter) 1 cup, sections
Mixed fruit (fruit cocktail)	1 cup, diced or sliced, raw or canned (drained)
Orange	1 large (3 1/16" diameter) 1 cup, sections
Orange, mandarin	1 cup, canned (drained)
Peach	1 large (2 3/4" diameter) 1 cup, sliced or diced, raw, cooked, or canned (drained) 2 halves, canned
Pear	1 medium 1 cup, sliced or diced, raw, cooked, or canned (drained)
Pineapple	1 cup, chunks, sliced or crushed, raw, cooked or canned (drained)
Plum	1 cup, sliced raw or cooked 3 medium or 2 large
Strawberries	About 8 large 1 cup, whole, halved, or sliced, fresh or frozen
Watermelon	1 cup, cooked, sliced or diced
Dried fruit (raisins, prunes, apricots, etc.)	1 small slice (1" thick) 1 cup, diced or balls
100% fruit juice (orange, apple, grape, grapefruit, etc.)	1 cup

Adapted from: https://www.choosemyplate.gov/fruit

Food Selection Tips
From the CRST Diabetes Program

Know your portion size. Portion size matters and is part of keeping track of your total carbs, fat, sodium, and calories.

Fruits

- Fresh fruit is better to eat than juice.
- Drain and rinse the juice from cans of fruit to lower the amount of sugar per serving.
- Only drink ½ of a glass of juice at a time. A full glass or more can spike blood sugar levels.
- An orange has 15 carbs.
- ½ of an apple has approximately 15 carbs.

Talk with a registered dietitian to help you plan a healthy diet and better manage your diabetes.

How to Shop for Fruits (Waskúyeča)

Fruits can be bought four ways: fresh, frozen, dried, or canned.

Fresh fruits are a great addition to meals or snacks. Select clean fruits that have a good color and a fresh appearance. Avoid fruits that are bruised, shriveled, mushy, wilted, or moldy. Fresh fruits will not store long so it is recommended to only purchase what you will use in a week.

Frozen fruits are quick and easy to use and are just as nutritious as fresh fruits. Try adding frozen fruits, such as blueberries, raspberries, strawberries, or peaches to a salad or smoothie, on top of cereal, or in pancakes or muffins. Only buy frozen, bagged fruits that are loose in the bag. When frozen fruits are in a large clump, it indicates they have been thawed and then re-frozen--which can be a food quality and potential food safety problem.

Dried fruits can be added to a favorite recipe or used as a nutritious, quick, and easy snack. Try adding dried fruits, such as raisins, bananas, apricots, apples, or Craisins® to granola, trail mix, popcorn, breakfast cereal, oatmeal, yogurt parfait, or lettuce or other salad. Dried fruits can be stored in a tightly sealed container at room temperature in a dark place. Storing dried fruits in a dark place helps keep their vitamin content.

Canned fruits are a great addition to any meal or snack, so keep on hand canned peaches, pears, fruit cocktail, and pineapple. Select fruits that are canned in water or 100% fruit juice to reduce the amount of added sugar. If purchasing fruit juice, select those labeled as 100% fruit juice. To avoid food safety problems, don't buy cans that are dented or scratched up.

Buying and Storing Fresh Fruits (Waskúyeča)

Fresh Fruit	How to Purchase	How to Store
Apples	Buy firm apples without any bruises or soft spots.	Store at room temperature for 3–5 days. Or, refrigerate for up to 3 months.
Bananas	If you will not eat right away, buy bananas when they are green so they will last longer. Allow them to ripen (lose any green color) before eating. Only buy bananas with many brown spots when you need overripe bananas for baking.	Ripen at room temperature. To prevent over-ripening, store in refrigerator up to 1 week. The skin will turn black, but the fruit will still be good. Peel and freeze overripe bananas to use in smoothies and muffins.
Berries	Buy firm, plump berries with no mold spots.	Refrigerate unwashed, in a single layer if you can. Will last 3–5 days.
Citrus fruits (e.g., oranges, limes, lemons)	Buy fruit that feels heavy for its size without any specific soft spots. Juicier citrus fruit will yield slightly when squeezed.	Store at room temperature up to 1 week. Or, refrigerate up to 1–2 months.
Grapes	Buy firm grapes still attached to the stem and free from mold.	Refrigerate in a plastic bag up to 1 week.
Mangoes	When ripe, mangoes will "give" or feel slightly soft when pressed.	Ripen at room temperature. Refrigerate ripe mangoes for up to 3 days.
Melons	Buy melons that yield slightly when you press on the end opposite the stem. Watermelons should have a yellow spot on the bottom.	Ripen at room temperature. Refrigerate ripe melon for up to 3 days.
Pear	Buy pears without any soft spots or bruising. Press at the top of the "neck" (near the stem) to judge ripeness. When ripe, pears will "give" or feel slightly soft when pressed.	Ripen at room temperature. Refrigerate ripe pears up to 3 days.
Stone fruit (e.g. peaches, plums, nectarines)	Buy when brightly colored and free from bruises or soft spots. When ripe, fruit will "give" or feel slightly soft when pressed.	Ripen at room temperature. Refrigerate ripe stone fruit up to 3 days.

How to Weigh and Calculate the Price of Fresh Fruit (Waskúyeča)

Some fruits have the price marked on them and other fruits have a price per pound listed by them. This can be confusing and cause surprises when checking out at the cash register. Knowing how to weigh fresh fruits and calculate the price per pound will help you know what fruits cost before you get to the cash register.

To weigh a fruit, place the item you want to purchase on the food scale located in the produce department. The food scale will show the weight of the fruit which is what you need to do the math to calculate the cost.

Example:
6 Bananas weigh 2 ½ pounds. They cost $ 1.79 per pound. To calculate the cost, you take the price per pound and multiply by the weight.

$1.79 x 2.5 pounds = $4.48 plus tax

Challenge Yourself!

Weight of 1 package of red, seedless grapes: 3 ¾ pounds or 3.75 pounds;
price: $1.99 per pound

_____ x _____ = $_____ plus tax

Answer: cost of red, seedless grapes is $7.46

Which Is Cheaper: Fresh, Frozen or Canned Fruits?

1 - 15 oz. can of peaches costs $2.25

2½ pounds (40 oz.) of fresh peaches costs $2.89 per pound

cost per ounce = $2.25/15 = $0.15 per oz. **Cheaper**

cost per ounce = $2.89/40 = $0.72 per oz.

Challenge Yourself!

Calculate which is cheaper to find the unit price.

price of item _____ divided by _____ oz. = _____ cost per oz.

1 – 16 oz. fresh strawberries costs $3.69

1 – 48 oz. frozen strawberries costs $9.59

cost per oz. = $_____

cost per oz. = $_____

1 – 20 oz. can chunk pineapple costs $2.19

1 – 20 oz. can pineapple rings costs $2.39

1 – 2 pound (32 oz.) fresh pineapple costs $3.25 per pound

cost per oz. = $_____

cost per oz. = $_____

cost per oz. = $ _____

Hint: Always compare prices at the grocery store to save $$$. Use unit pricing to see what is the cheapest.

Answer: Fresh strawberries cost $ 0.23 per oz.; frozen strawberries cost $ 0.20 per oz. **Cheaper option;** Can chunk pineapple costs $ 0.11 per oz. Cheaper option; can pineapple rings $ 0.12 per oz.; and fresh pineapple costs $0.20 per oz.

Seasonal Fruits (Waskúyeča)

What does it mean to eat in season?

Eating in season is eating fresh foods that are **harvested in your area**-- not half-way around the world and shipped to your local grocery store.

Why is it good to eat in season?

Eating in season has many benefits, such as:

- **You may save money**. Food harvested in your area is cheaper to transport to your local grocery store than food grown overseas. When you eat fresh fruits in season, you pay less for transportation costs.
- **Your food may taste better**. Foods grown and picked at their peak typically taste better. Compare the taste of a strawberries in May to strawberries in November — you may never go back!
- **You may get more nutrients from your food**. Produce starts to lose nutrients after it is picked. The longer the travel time to your grocery store, the more nutrients that are lost.

How can I eat more seasonal foods?

Try these tips for buying fruits in season:

- **Know what is in season**. To check out what is in season, see the Best Time to Buy Seasonal Fruits table on the following page.
- **Shop at a local farmers market**.
- **Look at the stickers on the fruits at your store**. The sticker must state what country the food was grown in.

How can I still eat a variety of fruits when seasonal produce is limited?

- **Eat fruit in all their forms**. Buying canned or frozen is a great way to get plenty of fruits year-round at a good price.
- **Store fruits** purchased at their peak (and at their cheapest!) for the less plentiful winter months.

Freezing Food Guide: https://www.ag.ndsu.edu/publications/food-nutrition/food-freezing-guide

Canning Food Guide: https://www.ag.ndsu.edu/food/food-preservation/canning

Best Time to Buy Seasonal Fruits

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Apples												
Blueberries												
Cantaloupe												
Cherries												
Grapes												
Oranges												
Peaches												
Pears												
Plums												
Raspberries												
Strawberries												
Watermelon												

Drying Food Guide: https://www.ag.ndsu.edu/food/food-preservation/drying

SHOPPING HINTS FOR FRUIT (Waskúyeča)

1. The freshest fruits are usually in the back and bottom of the bins.
2. Generally select mature, fully ripened fruit. Fruit can also be ripened in a brown paper bag.
3. If you want a smaller amount than what is offered, ask for assistance.
4. Fresh fruits are usually less expensive when purchased in season.

Food Safety

Fruits - All produce, regardless of where it was grown or purchased, should be thoroughly rinsed. However, any precut packaged fresh fruit (example: apple slices) do not need further rinsing.

- **Rinse** fresh fruits under running water just before eating, cutting, or cooking.
- **Do not use soap**, detergent, or bleach to clean fruits.
- Even if you plan to **peel or cut** the fruit before eating, it is **still important to thoroughly rinse** it first to prevent bacteria from transferring from the outside to the inside of the fruit.
- **Scrub the skin of firm fruits** (example: cantaloupe, watermelon) by rubbing with hands or with a clean **produce brush while rinsing** under water. **Dry fruit with a clean cloth or paper towel** to further reduce bacteria that may be present. Wet produce can allow remaining bacteria to multiply faster.
- **Refrigerate** all cut, peeled, or cooked fresh fruits **within two hours of preparing**.

Preventing Cross-Contamination

When shopping:

Separate fresh fruits from raw meat, poultry, seafood, and household chemicals in your grocery cart. Put fresh fruits in plastic bags (available in produce section of store).

When refrigerating food:

Keep fresh fruits away from and do not store under raw meat, poultry, and seafood. Keep meat, poultry, and seafood in containers or sealed plastic bags to prevent their juices from dripping onto other foods. Raw juices often contain harmful bacteria.

When preparing foods:

Wash hands and surfaces often: Harmful bacteria can spread throughout the kitchen and get onto cutting boards, utensils, and counter tops. To prevent contamination of foods, always wash hands with soap and hot water before and after handling food, and after using the bathroom, changing diapers, or touching pets.

Wash cutting boards, knives, utensils, dishes, and counter tops with hot, soapy **water after preparing each food item before moving onto the next item.**

Cutting boards and knives: Always use a clean cutting board and knife. **Always use one cutting board and knife for fresh fruits and a separate one for raw meats**. When cutting boards become excessively worn or develop hard-to-clean grooves, replace them.

Fruits: **Rinse** all fresh fruits **with running water to remove visible dirt**. Bacteria can grow on the cut surface of fruits so be careful not to contaminate while slicing, and **avoid leaving cut produce at room temperature**. **Refrigerate prepared fruits within two hours.**

For more information on food safety, go to http://www.fightbac.org/

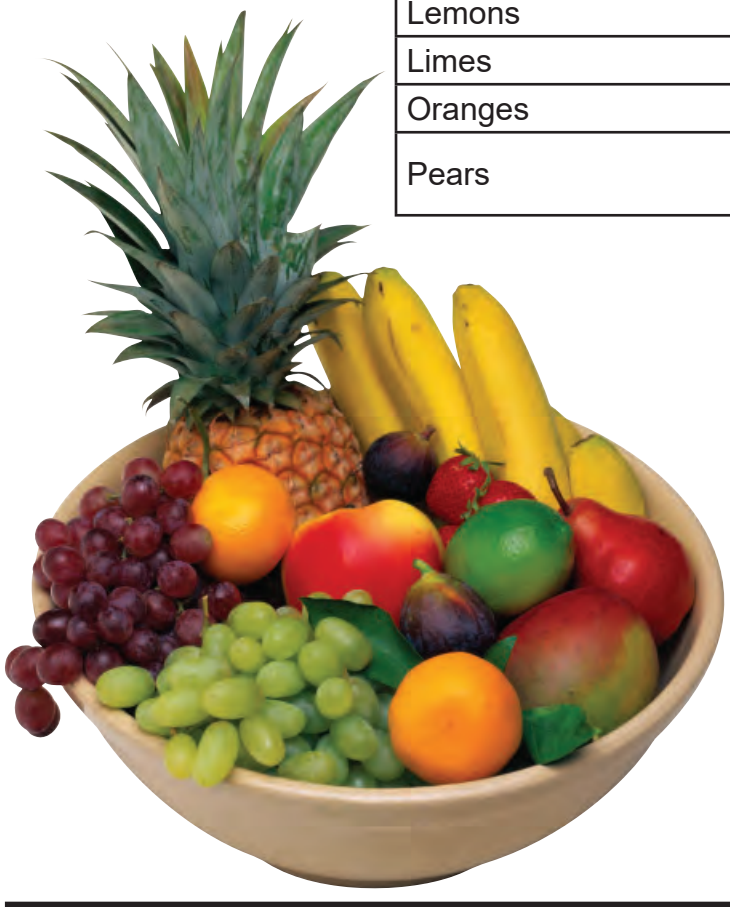
Fruit (Waskúyeča) Substitutions

If you are tempted to skip making a recipe because you don't have the fruit on hand, the fruit is too expensive, or the fruit is hard to find, try substituting another fruit. Read the recipe to find out how the fruit is used, and then look below to see if there is a fruit substitution you can use.

Instead of...	If Using Raw, Sub in...	If Using Cooked, Sub in...
Berries (blueberries, blackberries, strawberries, and raspberries)	Cherries, bananas, grapes, stone fruit	Cherries, grapes, stone fruit
Grapes	Cherries, berries, bananas	Cherries, berries
Stone fruit (peaches, plums, nectarines, and apricots)	Bananas, berries	Grapes, apples, pears

The following substitutions will work whether using raw or cooked fruits:

Instead of...	Sub in...
Apples	Peaches, pears, plums, nectarines, apricots
Bananas	Berries
Grapefruit	Oranges
Lemons	Limes, oranges, grapefruit
Limes	Lemons, oranges, grapefruit
Oranges	Grapefruit
Pears	Apples, peaches, plums, nectarines, apricots



Snack Smart

Instead of fruit-flavored snacks...

Make a Fruit Salad

- Wash and peel a variety of colorful fruits.
- Cut fruits into bite-sized pieces. Combine in a large bowl.
- Cut a lime in half. Squeeze the juice over the fruits.
- Drizzle on a Tablespoon of honey if you like.
- Stir ingredients to combine and enjoy!

Instead of snack or energy bars...

Make Banana Crunch

- Mash a large, ripe banana in a bowl.
- Add ¼ cup of granola.
- Add a dash of cinnamon.
- Mix ingredients together.
- Spread mixture onto whole wheat wafers or graham crackers and enjoy!

Make Avocado Crunch

- Mash a ripe avocado in a bowl.
- Add juice from half a lemon, 2 teaspoons of sunflower seeds, and a pinch of salt.
- Spread over whole wheat crackers. Or, eat with vegetable slices.

Instead of peanut butter crackers...

Make Peanut Butter Sticks

- Wash and cut celery into short sticks.
- Spread a thin layer of peanut butter on celery sticks.
- Top peanut butter with raisins and enjoy!

Instead of cheesy crackers...

Make Fruit and Cheese Kabobs

- Cut block cheese into small cubes.
- Wash, peel, and cut a variety of colorful fruits into bite-sized pieces.
- Slide food onto coffee stirrer "skewers" or whole wheat pretzel sticks. Switch between fruit and cheese pieces.

Make Cucumber Sammies

- Cut cucumbers into thin slices.
- Top half of the slices with small pieces of turkey and cheese.
- Cover each one with another cucumber slice.

Instead of potato chips or salty snacks...

Make your own trail mix (page 24)

Instead of ice cream...

Make your own yogurt parfaits (Month 5, Lesson 5)

Instead of frozen fruit snacks...

Make Frozen Fruit Poppers

- Wash and peel a variety of colorful fruits.
- Cut fruits into bite-sized pieces. Place in a freezer-safe plastic bag.
- Let freeze in the freezer. Pull out and enjoy!

Make Fruit Pops

- In a blender, combine fresh or frozen fruit pieces, water, and a small amount of honey or sugar. Blend together.
- Pour mixture evenly into empty ice cube trays.
- Freeze until slushy, about 45 minutes.
- Stick a popsicle stick or toothpick into each cube. Place back in the freezer for 1 hour or until frozen.

Challenge Yourself!

Set a Goal

Choose (kaȟníğa) one of the goals below (or set your own) to try during the next month:

- ❒ I will try a new fruit that I haven't eaten before.
- ❒ I will vary the color of fruits that I eat for the week.
- ❒ I will use the food scale at the grocery store to weigh a fruit to calculate what it costs per pound.
- ❒ I will make a recipe from this lesson.
- ❒ I will: _____

  _____

Lesson 5: Dairy Foods

Dairy foods are an important part of a well-balanced diet. However, some dairy foods are healthier than others.

In this lesson, you will learn:

- What are dairy foods
- Key nutrients in dairy foods
- Health benefits of eating dairy foods
- How much dairy you need to be healthy
- Non-dairy foods high in calcium
- How to choose healthy dairy foods
- How to maximize your food dollars when purchasing dairy foods
- How to properly store dairy foods

What are Dairy Foods?

The dairy group includes all fluid milk (asáŋpi), and many foods made from milk (asáŋpi). Foods made from milk high in calcium are part of this group. Some items in the dairy group include:

- Milk: fat-free (skim), low-fat (1%), reduced fat (2%), whole milk
- Lactose-reduced milks, lactose-free milks
- Flavored milks: chocolate, strawberry
- Milk-based desserts: ice cream, frozen yogurt, ice milk, puddings made with milk
- Hard natural cheeses: cheddar, mozzarella, Colby, Swiss, Parmesan
- Soft cheeses: ricotta, cottage cheese
- Processed cheeses: American, Velveeta
- Yogurt: fat-free, low-fat, reduced fat, whole milk yogurt
- Calcium-fortified soy milk

Foods made from milk (asáŋpi) that have very little calcium are not part of the dairy group. These foods include:

- Cream cheese, reduced-fat cream cheese
- Cream (including whipping cream and half-and-half)
- Butter

Why Eating Dairy Foods is Important

Consuming dairy foods helps you stay healthy and keeps your bones strong. Key nutrients in dairy foods include:

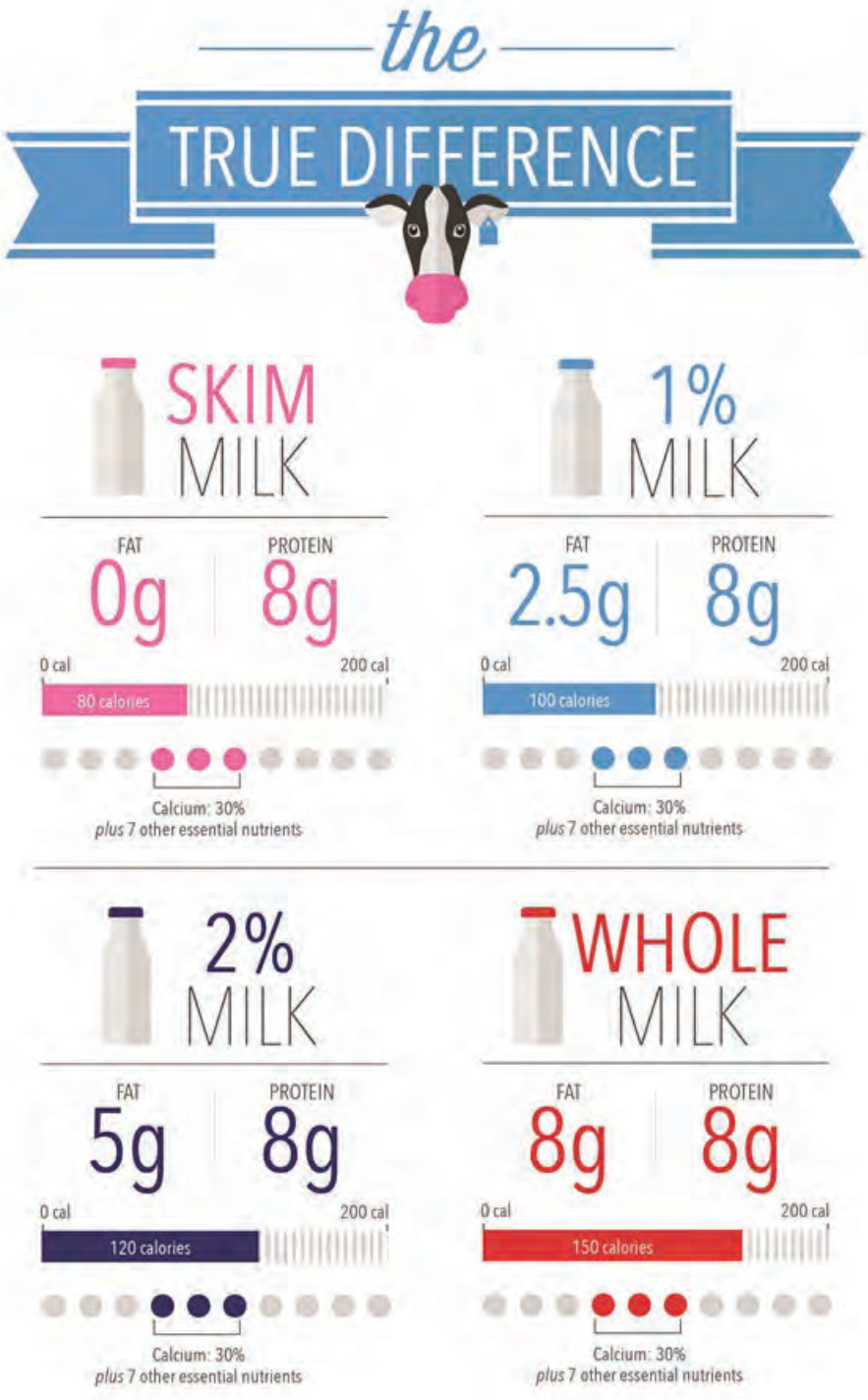
- **Calcium**
- **Potassium**
- **Vitamin D**
- **Protein**

Diabetes Hints… Dairy Foods

Healthy eating with diabetes starts with what is on your plate. Dairy foods will raise blood sugar so it is important to pay attention to the serving size and carbohydrates listed per serving on the nutrition label. Remember to spread your carb choices throughout your day's meals and snacks.

- **BLOOD SUGAR ALERT** - will raise blood sugar a lot.
  - Try to avoid eating high sugar foods like flavored yogurt, chocolate milk, and strawberry milk.
- **BENEFITS** – good for bone health and a good source of energy.
- **SERVING SIZE** – one cup of skim or 1% milk, one cup low-fat plain yogurt, ½ cup of sugar-free pudding, or ½ cup ice cream.
- **EATING TIPS FOR A HEALTHY DESSERT OR SNACK**:
  - ½ cup plain low-fat yogurt with fresh fruit
  - ½ cup sugar-free pudding
  - Skip eating grains or starchy foods with meals or snacks that include dairy foods
  - Eat reduced-fat cheeses

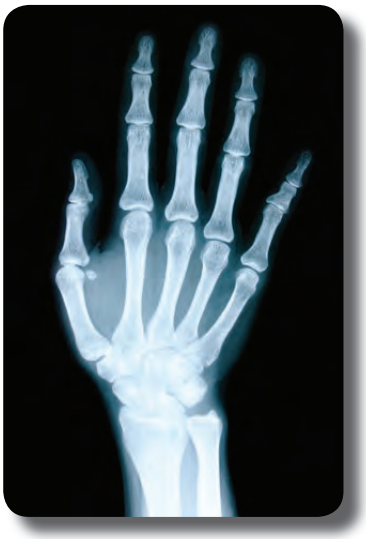
Choosing Milk Products that are **Low-Fat** or **Fat-Free** Reduces the Amount of Fat and Calories in your Diet



Source: National Dairy Council

Health Benefits of Eating Dairy Foods

Eating dairy foods helps to maintain good bone health and may reduce the risk of osteoporosis.



Eating dairy foods is especially important for bone health during childhood and adolescence when bones are growing.

Eating dairy foods can lower risk of heart disease and type 2 diabetes, and can lower blood pressure in adults.

How Much Dairy Do You Need to be Healthy?

Daily dairy needs are different for adults and children. Adult men and women need 3 cups of milk (or equivalents in cheese or other dairy foods: see table "What Does a Cup of Dairy Look Like?") per day to be healthy. Children's dairy needs vary depending on their age. See the below table for exact dairy needs:

Daily Recommendations for Milk Intake*		
Children	2-3 years old 4-8 years old	2 cups 2 ½ cups
Girls	9-13 years old 14-18 years old	3 cups 3 cups
Boys	9-13 years old 14-18 years old	3 cups 3 cups
Women	19-30 years old 31-50 years old 51+ years old	3 cups 3 cups 3 cups
Men	19-30 years old 31-50 years old 51+ years old	3 cups 3 cups 3 cups

*Not all dairy foods are created equal. You cannot directly substitute a cup of milk for a cup of cheese. See the table "What Does a Cup of Dairy Look Like?" to better understand dairy equivalencies.

What Does a Cup of Dairy Look Like?

Adults should consume 3 cups of dairy foods per day as part of a healthy diet. Not all dairy foods are measured the same. A cup of milk is different than a cup of cheese or yogurt. This table shows you what counts as a “cup”.

Type of Dairy	Amount that Equals “One Cup” of Dairy	Common Package or Portion Sizes
Milk (Asáŋpi): fat-free (skim), low-fat (1%), reduced fat (2%), whole milk	1 cup	 1 ½ pint carton = 1 cup = 1 cup dairy equivalent
Evaporated Milk	½ cup	 12 ounce can = 1 ½ cups = 3 cups dairy equivalents
Yogurt: fat-free (skim), low-fat (1%), reduced fat (2%), whole milk yogurt	1 cup	 8 ounces = 1 cup = 1 cup dairy equivalent

Type of Dairy	Amount that Equals “One Cup” of Dairy	Common Package or Portion Sizes
Hard cheese (such as cheddar, mozzarella, Colby, Swiss, Parmesan)	1 ½ ounces	 1 ½ ounces cheese = 1 cup dairy equivalent
Shredded Cheese	1/3 cup	 16 ounces = 2 cups = 6 cups dairy equivalent  1/3 cup = 1 cup dairy equivalent
Processed Cheese (such as American cheese, Velveeta)	2 ounces	 3 slices = 2 ounces = 1 cup dairy equivalent

Type of Dairy	Amount that Equals "One Cup" of Dairy	Common Package or Portion Sizes
Cottage cheese	2 cups	 32 ounces = 4 cups = 2 cups dairy equivalents  ½ cup cottage cheese = ¼ cup dairy equivalent
Ricotta cheese	½ cup	 32 ounces= 4 cups = 8 cups dairy equivalents  ½ cup ricotta cheese = 1 cup dairy equivalent

Type of Dairy	Amount that Equals “One Cup” of Dairy	Common Package or Portion Sizes
Pudding (made with milk)	1 cup	 1/2 cup pudding = 1/2 cup dairy equivalent
Frozen yogurt	1 cup	 1 cup frozen yogurt = 1 cup dairy equivalent
Ice cream	1 ½ cups	 ¾ cup ice cream = ½ cup dairy equivalent
Soy milk (soy beverage)	1 cup	 1 cup soy milk = 1 cup dairy equivalent

Lactose-Intolerant? Try These Low-Lactose or Lactose-Free Options:

If you avoid milk (asáŋpi) due to lactose intolerance, you can still get the health benefits of dairy foods by choosing low-lactose or lactose-free options:

- Cheese (cheddar, Parmesan, and Swiss are naturally low in lactose)
- Lactose-free yogurt
- Lactose-free milk
- Calcium-fortified soy milk (soy beverage)

Some people choose to take the enzyme lactase before eating dairy foods. This may help with the digestion of dairy foods and minimize upset stomach and other symptoms of lactose-intolerance.

Don't like dairy? If you avoid milk (asáŋpi) and other dairy foods, choose non-dairy foods high in calcium:

- Calcium-fortified juices
- Cereals
- Breads
- Rice milk
- Almond milk
- Calcium-fortified soy milk (soy beverage)
- Canned fish (sardines, salmon with bones)
- Soybeans
- Other soy products (tofu made with calcium sulfate, soy yogurt, tempeh)
- Some leafy greens (collard and turnip greens, kale, spinach, broccoli, bok choy)

The amount of calcium that can be absorbed from different foods varies. See the table on the next page with common calcium-rich foods to help you select which foods to buy.

Calcium "Rich" Foods	Standard Portion Size	Amount of Calcium in Standard Portion (mg)
Fortified ready-to-eat cereals	¾-1¼ cup	137-1,000
Tofu	½ cup	434
Orange juice, calcium fortified	1 cup	349
Sardines, canned in oil, drained	3 ounces	325
Pasteurized processed American cheese	2 ounces	593
Parmesan cheese, hard	1.5 ounces	503
Mozzarella cheese, part-skim	1.5 ounces	304
Colby cheese	1.5 ounces	291
Cheddar cheese	1.5 ounces	287
Plain yogurt, nonfat	8 ounces	452
Plain yogurt, low-fat	8 ounces	415
Fruit yogurt, low-fat	8 ounces	383
Almond milk (all flavors)	1 cup	451
Soy milk (all flavors)	1 cup	340
Evaporated milk	½ cup	329
Whole buttermilk	1 cup	282
1% milk	1 cup	305
Skim milk	1 cup	299
2% milk	1 cup	293
Whole milk	1 cup	276

Source: Dietary Guidelines 2015-2020

How to Choose Healthy Dairy Foods

Limit saturated fat: Some dairy foods, like whole milk and many cheeses, are high in saturated fat. Saturated fat can increase unhealthy (LDL) cholesterol levels. You will learn more about the health effects of unhealthy cholesterol in Lesson 6. Try to choose dairy foods that are low in saturated fat.

Avoid added sugars: Many dairy foods contain added sugar. Added sugars are associated with obesity and poor control of diabetes. Cut down on added sugars by choosing plain yogurt rather than flavored yogurt.

Move to low-fat or fat-free milk (asáŋpi) or yogurt: Choose dairy foods that are low in fat. Use these tips to help you:

- If you drink whole milk, try low-fat (1%) or fat-free (skim) milk instead. You can switch gradually. Start by trying reduced fat (2%) milk, then move to low-fat (1%) milk, and finally fat-free (skim) milk over time.

- If you drink coffee, try adding fat-free (skim) milk instead of creamer.
- Add fat-free (skim) or low-fat (1%) milk to oatmeal and hot cereals instead of whole milk.
- Use fat-free (skim) or low-fat (1%) milk when making condensed cream soups (such as cream of tomato or cream of chicken).
- Top a baked potato with fat-free or low-fat yogurt instead of sour cream.
- Top casseroles, soups, stews, or vegetables with shredded low-fat cheese instead of whole-fat cheese.
  - Note: Low-fat cheese melts differently than regular cheese.

Challenge Yourself!

Examine the fat and sugar content in the 3 yogurts below and circle the yogurt with the least amount of saturated fat and sugar.

Hint: remember to pay attention to serving sizes

Option 1: Stonyfield Whole Milk Plain Yogurt

Option 2: Dannon Vanilla Low-Fat Yogurt

Option 3: Organic Great Value: Plain Yogurt

Nutrition Facts
Serving Size 1 cup (227g)
Servings Per Container 4

Amount Per Serving	
Calories 170	Calories from Fat 80
	% Daily Value*
Total Fat 9g	**14%**
Saturated Fat 5g	**25%**
Trans Fat 0g	
Cholesterol 35mg	**12%**
Sodium 125mg	**5%**
Total Carbohydrate 13g	**4%**
Dietary Fiber 0g	**0%**
Sugars 12g	
Protein 9g	**18%**

*Percent Daily Values are based on a 2,000 calorie diet.

Nutrition Facts
Serving Size 1 cup (227g)
Servings Per Container 4

Amount Per Serving	
Calories 210	Calories from Fat 30
	% Daily Value*
Total Fat 3g	**5%**
Saturated Fat 2g	**10%**
Trans Fat 0g	
Cholesterol 15mg	**5%**
Sodium 140mg	**6%**
Total Carbohydrate 35g	**12%**
Dietary Fiber 0g	**0%**
Sugars 33g	
Protein 10g	**20%**

*Percent Daily Values are based on a 2,000 calorie diet.

Nutrition Facts
Serving Size 3/4 cup (96g)
Servings Per Container 5

Amount Per Serving	
Calories 90	Calories from Fat 15
	% Daily Value*
Total Fat 1.5g	**2%**
Saturated Fat 1g	**5%**
Trans Fat 0g	
Cholesterol 10mg	**3%**
Sodium 105mg	**4%**
Total Carbohydrate 11g	**4%**
Dietary Fiber 0g	**0%**
Sugars 0g	
Protein 7g	**14%**

*Percent Daily Values are based on a 2,000 calorie diet.

Answer: Option 3: Organic Great Value Yogurt has the least amount of saturated fat and no sugar.

Challenge Yourself!

Your cousin and her family are coming over for dinner. You have been telling her about the Cheyenne River Cooking for Health Stud. You tell her that dairy foods are part of a healthy diet, and you'd like to try a new casserole recipe for dinner.

The casserole recipe calls for concentrated cream of mushroom soup, milk, and string beans. The recipe states that you can add some additional vegetables (of your choice) and healthy toppings. Choose a milk product, a calcium-rich vegetable, and a healthy topping for the casserole.

Which milk product is the healthier choice?

Whole Milk

Low-fat (1%) Milk

Which vegetable has more calcium?

Broccoli

Carrots

Which topping is the healthier choice?

Low-fat Mozzarella

Bacon

Answer: Low-fat milk is healthier than whole milk; broccoli is a calcium-rich vegetable. Although high in vitamin A, carrots do not have much calcium; Low-fat shredded cheese is healthier than bacon.

Tips for Maximizing Food Dollars

MILK (Asáŋpi)

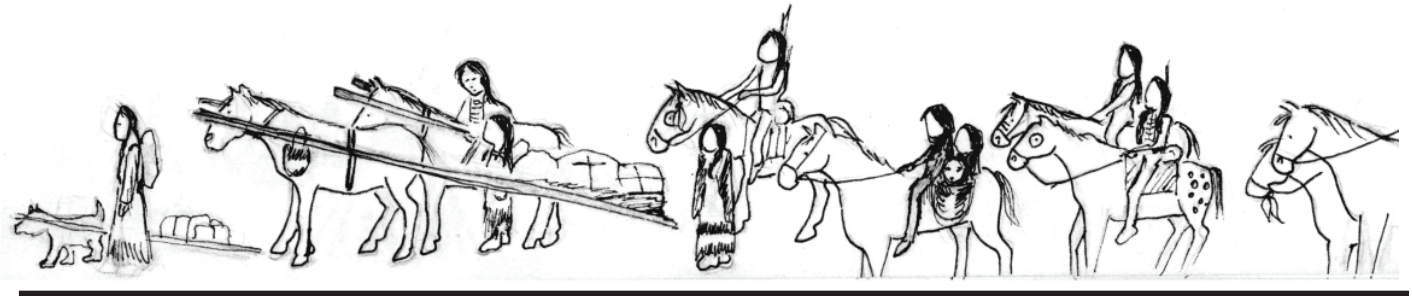
- **Larger containers of milk** usually cost less per serving than smaller containers.
- **Low-fat (1%) or fat-free (skim) milk** are often less expensive than whole milk.
- **Nonfat dry milk** usually costs less than fresh milk and can be stored for a long time. Use nonfat dry milk in soups, gravies, puddings, and pancakes when supplies of fresh milk run out.
- **Dry milk** can be added to fresh milk to increase the calcium content.

CHEESE

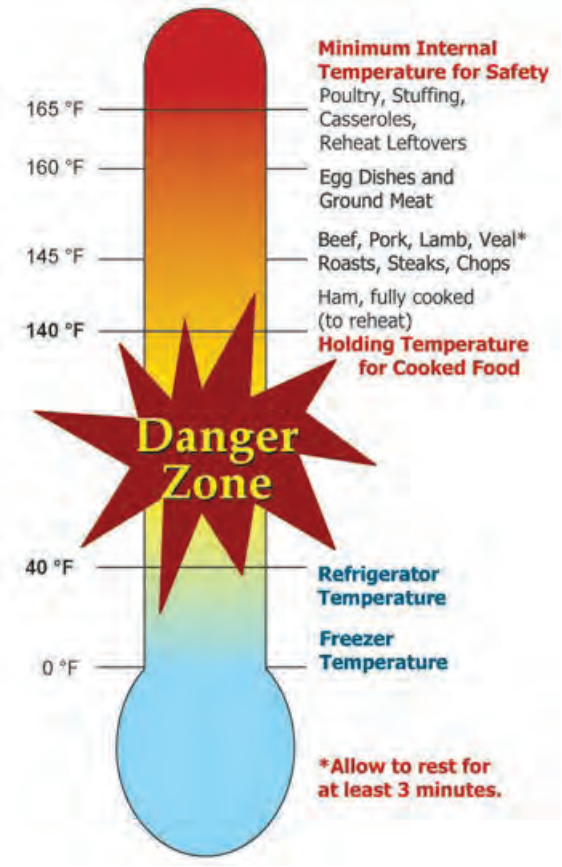
- **Cheese blocks** may be less expensive than sliced, cubed, shredded, or string cheese.
- **Mild cheese** usually costs less than aged or sharp cheese.
- **U.S. made cheese** almost always costs less than imported cheese.
- **Processed cheese** is a better buy than processed cheese spread because it contains less moisture.
- If cheese becomes dry, **grate or shred it** and sprinkle it on casseroles or vegetables.

YOGURT

- **Larger containers of yogurt** usually cost less per serving than smaller containers.



Food Storage: Keeping Dairy Foods Safe



Avoid buying raw (unpasteurized) milk or any products made from unpasteurized milk. Unpasteurized milk products have not been heated to a temperature sufficient to destroy bacteria that can cause food poisoning.

- **When shopping, pick up the dairy products last** and refrigerate as soon as you get home.
- **Keep your refrigerator at (or below) 40°F** Store dairy products on the shelves rather than in the door.

Bacteria grow very rapidly above 40 °F. Foods that have been out of the refrigerator for more than two hours should be thrown away, even if they look and smell fine.

- **Refrigerate cheese** in its original wrapper or tightly wrapped in plastic.
- **Milk can be frozen**. **If freezing in carton, be sure to remove** some milk first as the liquid will expand when frozen. Thaw in the refrigerator and shake well before use.
- **Cheese can be frozen**. However, it may be crumbly when thawed. Always thaw cheese in the refrigerator.
- **Nonfat dry milk** should be kept in a cool, dry place.

Sell-By Versus Use-By Dates

- **The "sell by" dates** on cartons of milk and other dairy foods tell the store how long to display the food product for sale. Most foods are safe to eat for a week after the "sell by" date.

- **The "use by" or "best by" dates** on packages refer to the last date the food is likely to be at its best flavor, quality, and freshness and is not a safety date. If stored properly, many dairy products are still safe to eat up to a week past the date.

The food safety rule of thumb for any food item is….If you are in doubt, throw it out!

Cooking Substitutions – Dairy Foods

If your recipe calls for milk, you can easily substitute nonfat dry milk and water.

¼ cup milk = 1 Tablespoon plus 1 teaspoon dry milk and ¼ cup of water

⅓ cup milk = 2 Tablespoons dry milk and 1/3 cup of water

1 cup milk = ⅓ cup dry milk and 1 cup water

Nonfat dry milk can also be added dry to mashed potatoes, soups, stews, meatloaf, hamburgers, and cooked cereals for an extra boost of nutrition.

For more cooking substitutions, check out the Ingredient Substitution document from NDSU Extension located in the appendix section of this binder.

Cooking Dairy

- When cooking milk, such as in white sauce or pudding, the best advice is to cook at a low temperature over time, also referred to as “low and slow.” Stir constantly to keep it from sticking to the pan or scorching.
- Cheese must be melted over low heat, stirring constantly. Remove from heat as soon as cheese is melted to prevent it from becoming stringy or tough.
- Acidic foods, like tomatoes, make cheese stringy (think of pizza with tomato sauce).
- Processed cheese melts better than natural cheese. Low-fat and fat-free cheeses do not melt well.
- Add cheese, yogurt, or sour cream to dishes at the end of the baking time to prevent overcooking and separating.

Reconstituting Nonfat Dry Milk Powder

Dry Milk		Water		Yield
⅓ cup	+	1 cup	=	1 cup nonfat milk
⅔ cup	+	2 cups	=	2 cups nonfat milk (1 pint)
1⅓ cup	+	3¾ cups	=	1 quart nonfat milk (4 cups)
3 ½ cups	+	5 quarts	=	5 quarts nonfat milk

As a beverage, the milk usually tastes better if it is made the day before use and served cold. For added flavor, add a few drops of vanilla.

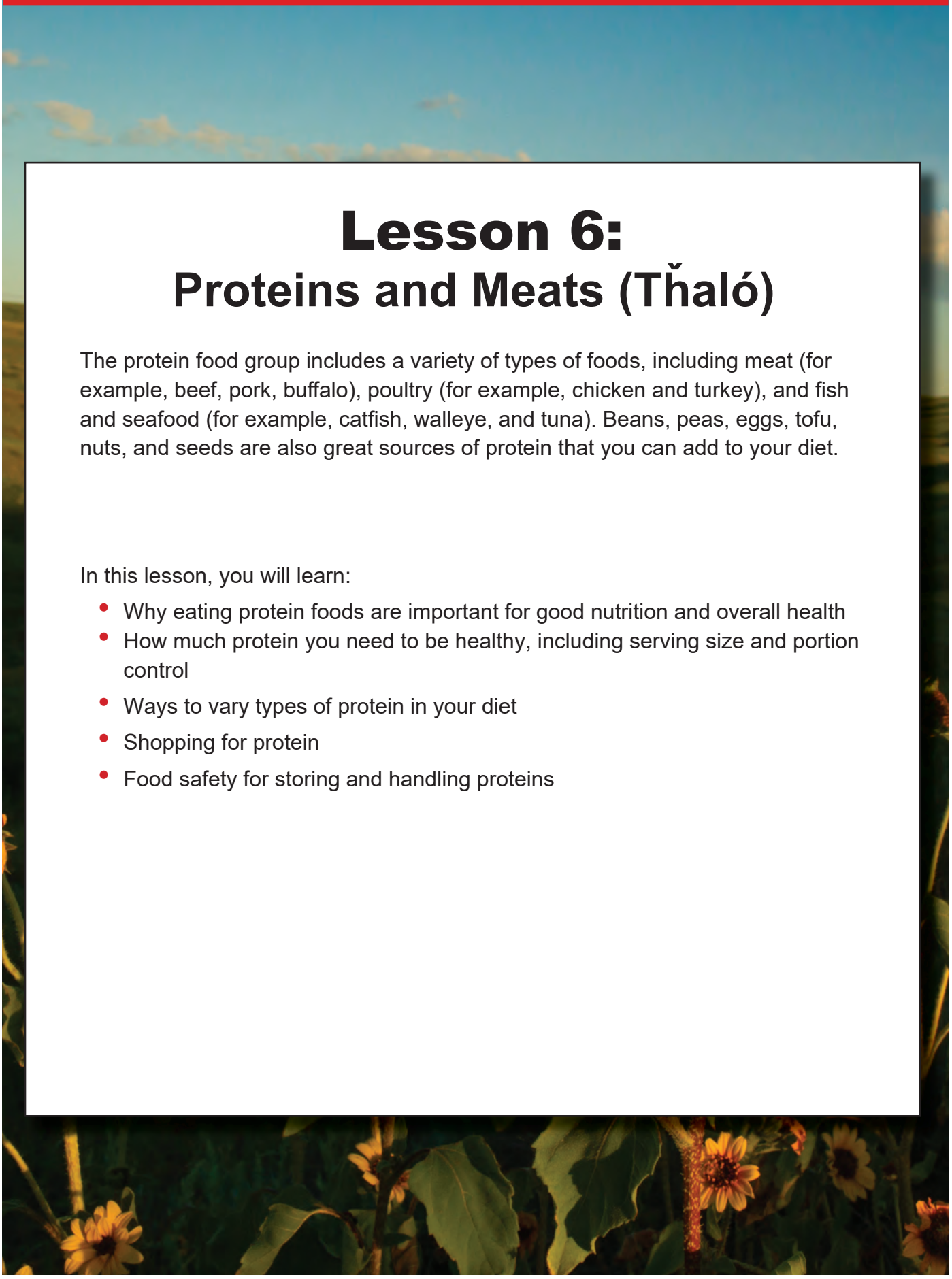
Challenge Yourself!

Set a Goal

Choose (kaȟníğa) one of the goals below (or set your own) to try during the next month:

- ❒ I will choose low-fat or fat-free dairy foods.
- ❒ I will try one of the dairy recipes.
- ❒ I will add more dairy foods to my diet.
- ❒ I will limit unhealthy cholesterol in my diet.
- ❒ I will: _____

  _____



Lesson 6:
Proteins and Meats (Tȟaló)

The protein food group includes a variety of types of foods, including meat (for example, beef, pork, buffalo), poultry (for example, chicken and turkey), and fish and seafood (for example, catfish, walleye, and tuna). Beans, peas, eggs, tofu, nuts, and seeds are also great sources of protein that you can add to your diet.

In this lesson, you will learn:

- Why eating protein foods are important for good nutrition and overall health
- How much protein you need to be healthy, including serving size and portion control
- Ways to vary types of protein in your diet
- Shopping for protein
- Food safety for storing and handling proteins

Why Eating Protein is Important

A healthy and balanced diet includes eating a variety of different types of protein, including:

- Meat (tȟaló) examples: beef, pork, lamb, buffalo
- Poultry
- Fish & seafood
- Beans (omníča)
- Peas
- Eggs
- Tofu
- Nuts, nut butters, and seeds

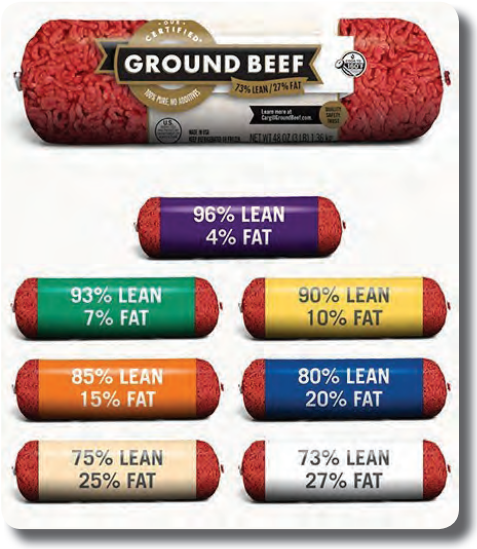
Diabetes Hints… Protein Foods

Healthy eating with diabetes starts with what is on your plate. **Protein foods will raise blood sugar a small amount** so it is important to pay attention to the serving size listed on the nutrition label. Approximately ¼ of your plate should be from the protein food group.

- **BLOOD SUGAR ALERT** – will raise blood sugar a little.
- **BENEFITS** – helps you feel full and a good source of energy.
- **PROTEIN FOODS TO TRY** – beef, beans, tuna, eggs, fish, nuts, peanut butter, chicken, turkey, and tofu.
- **EATING TIPS FOR A MEAL OR SNACK** –
  - Eat lean cuts of meat because they have less fat and usually cost less.
  - Dried beans and soy products (veggie burgers and tofu) contain carbs.
  - Dial back the carbs in favorite meals:
    - A burrito contains meat, beans, and rice wrapped in a flour tortilla – dial back the carbs by omitting the rice.
    - When eating spaghetti and meat sauce, use spiraled zucchini instead of pasta.
    - Enjoy a burger with fresh lettuce, tomato, onion, and slice of cheese, but omit the bun.
    - Omit the traditional pizza crust and use a cauliflower crust to make your favorite meat and veggie pizza.
    - Omit the tortilla shell and wrap meats in a lettuce leaf.

Meat (tȟaló) and poultry choices should be **lean or low-fat**.

What Does Lean or Low-Fat Mean?



Lean or low-fat can best be explained by comparing the amount of meat to fat. For example, the lean-to-fat ratio for ground beef is shown in the image on the right. Leaner meat has a lower percentage of fat, and is a healthier option. Meats with higher fat content have more “bad” cholesterol (LDL).

Cholesterol Facts

- Cholesterol is a type of fat found in our blood. Our bodies need cholesterol to make cell membranes, hormones, and to help digest food.
- Cholesterol comes from the foods we eat. Our liver also makes cholesterol.
- Cholesterol is found in protein foods, such as meat (beef, pork, lamb, buffalo, and venison), poultry, fish, and egg yolks. Dairy products also contain cholesterol.
- There are two types of cholesterol: LDL (low-density lipoprotein) and HDL (high-density lipoprotein).
    - LDL or “bad” or “unhealthy” cholesterol can clog arteries and cause strokes and heart attacks.
    - HDL or “good” or “healthy” cholesterol helps remove the LDL cholesterol from the bloodstream. Higher levels of HDL can help reduce the risk for heart disease.

To reduce the “bad” cholesterol (LDL) in our bodies, limit foods high in saturated fat, including:

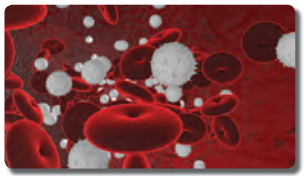
- Fatty cuts of red meats (tȟaló)
- Regular ground beef (75-85% lean)
- Sausages and hot dogs
- Bacon
- Bologna and salami
- Egg yolks
- Spam
- Vienna sausage
- Organ meats

*More information on fats (including oils) will be covered in Lesson 9.

Eating Foods High in Protein will Help You Stay Healthy

Nutrients in protein foods (wóyute) include:

- B vitamins
- Iron
- Magnesium
- Omega-3 fatty acids (in fish & seafood)



B vitamins help your body make red and white blood cells. B vitamins also support metabolism and proper functioning of the nervous system.

Iron helps oxygen travel around your body in your blood.

Magnesium is important for building strong bones and muscles.

Fish and seafood are excellent sources of **omega-3 fatty acids**. Eating fish and seafood may help reduce risk of heart disease, depression, and joint pain.

Note: At the 1ppm mercury level, SD Department of Health recommends that people space their meals of fresh fish to limit consumption to safe levels. The SD Department of Health’s advisory follows the FDA’s action level and recommends that healthy adults eat no more than 7 ounces of fresh fish per week with mercury levels close to or slightly above 1ppm. For more information, visit http://doh.sd.gov/food/mercuryFAQ.aspx

Note: Women at risk for pregnancy or currently pregnant should avoid fish that are high in mercury (such as marlin, shark, swordfish, grouper, and ahi tuna). Women who plan to become pregnant, are pregnant or breastfeeding, and children under age seven should eat no more than 7 ounces of such fish per month.

How Much Protein Do You Need Each Day to be Healthy?

The **amount of protein** you should eat depends on your:

- sex
- age
- physical activity level

Below are the daily recommendations for protein consumption for people who get less than 30 minutes of moderate physical activity (such as brisk walking) per day. Those who are more (or less) physically active should talk to their doctor about how much protein they need to be healthy.

Daily Recommendations for Protein Consumption*		
Children	2-3 years old 4-8 years old	2 ounces 4 ounces
Girls	9-13 years old 14-18 years old	5 ounces 5 ounces
Boys	9-13 years old 14-18 years old	5 ounces 6 ½ ounces
Women	19-30 years old 31-50 years old 51+ years old	5 ½ ounces 5 ounces 5 ounces
Men	19-30 years old 31-50 years old 51+ years old	6 ½ ounces 6 ounces 5 ½ ounces

*Not all protein foods are created equal. You cannot directly substitute an ounce of lean meat or poultry for an ounce of nuts. See the table “What Does an Ounce of Protein or Meat Look Like” to better understand protein equivalences.

What is a Typical Serving Size?

Common household objects can give you a good idea of a serving size of protein foods.

Meats, Fish & Nuts

3 ounces lean meat & poultry = deck of cards

3 ounces grilled or baked fish = checkbook

3 ounces tofu = deck of cards

2 Tablespoons peanut butter = golf ball

2 Tablespoons hummus = golf ball

1 ounce of almonds = 24 almonds

1 ounce of pistachios = 48 pistachios

3 ounces lean meat & poultry or 3 ounces tofu = deck of cards

3 ounces grilled/baked fish = checkbook

2 Tablespoons peanut butter or hummus = golf ball

Note: The above examples are to show the size of a typical serving of meats, fish and nuts. The above Daily Recommendations for Protein Consumption table shows how many ounces of protein you should eat per day based on your gender and age.

What Does One Ounce of Protein or Meat (Tȟaló) Look Like?

Depending on age, adult women should consume 5 to 5 ½ ounces and adult men should consume 5 ½ to 6 ½ ounces of protein foods per day as part of a healthy diet. Not all protein foods are measured the same. An ounce of ground beef is different than an ounce of peanut butter. This table shows you what counts as an "ounce".

Type of Protein	Amount that Equals One Ounce of Protein	Common Package or Portion Size
Meats	1 ounce of cooked lean beef, pork, lamb, bison, deer, or elk	 1 bison burger = 3-4 ounces (size of a deck of cards)  1 pork chop = 3-4 ounces (size of a deck of cards)
Poultry	1 ounce cooked chicken or turkey, without skin 1 sandwich slice of turkey (approximate size = ⅛ inch thick and shape of a deck of cards)	 1 small chicken breast half = 3 ounces (size of a deck of cards)

One Ounce of Protein or Meat, continued...

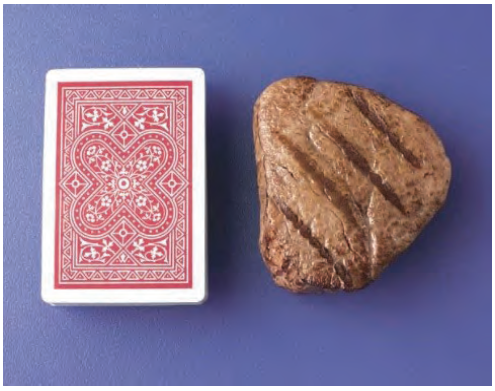
Type of Protein	Amount that Equals One Ounce of Protein	Common Package or Portion Size
Fish and Seafood	1 ounce cooked fish	 1 can of tuna, drained = 3-4 ounces  salmon steak = 4-6 ounces
Eggs	1 egg	 2 eggs = 2 ounces 3 egg whites = 2 ounces 3 egg yolks = 1 ounce
Nuts and Seeds	½ ounce of nuts (12 almonds, 24 pistachios, or 7 walnut halves)	 1 package of almonds = 1.5 ounces

Ounce of Protein or Meat, continued...

Type of Protein	Amount that Equals One Ounce of Protein	Common Package or Portion Size
Nuts and Seeds	½ ounce or 2 Tablespoons of pumpkin or sunflower seeds 1 Tablespoon of peanut or almond butter	 2 Tablespoons of peanut butter = 2 ounces
Beans and Peas	¼ cup of cooked beans (black, kidney, pinto, white), peas (chickpeas, cowpeas, lentils, split peas), baked beans, refried beans, or tofu ¼ cup of baked beans or refried beans 2 Tablespoons hummus	 1 cup bean or pea soup = 2 ounces  ½ cup of baked beans = 2 ounces  1 soy or bean burger patty = 2 ounces

Portion Distortion

The average portion size at restaurants and takeout has changed drastically over the last 20 years. Here are a couple examples of portion distortion from the protein food group:



3 ounces steak = 230 calories

9 ounces steak = 679 calories

Calorie difference: **449 calories**

In order to burn those **extra calories**, you need to ride a bike for **41 minutes***

*Based on a 130 pound person, Source: National Heart, Lung, & Blood Institute, Obesity Education Initiative, Portion Distortion

3.7 ounces = 333 calories

7.5 ounces = 590 calories

Calorie difference: **257 calories**

In order to burn those **extra calories**, you need to lift weights for **1 hour and 30 minutes***

*Based on a 130 pound person, Source: National Heart, Lung, & Blood Institute, Obesity Education Initiative, Portion Distortion

Portion Distortion (Continued)

1 cup spaghetti with sauce
& 3 small meatballs = 500 calories

2 cups spaghetti with sauce
& 3 large meatballs = 1,025 calories

Calorie difference: **525 calories**

In order to burn those **extra calories**, you need to clean house for **2 hours and 35 minutes.***

*Based on a 130 pound person, Source: National Heart, Lung, & Blood Institute, Obesity Education Initiative, Portion Distortion.

Tip! One way to prevent portion distortion is to use a smaller plate or bowl for meals. One cup of food looks very different when put on a smaller plate vs. a larger plate. Measure out one cup of food and see what it looks like on your plates and in your bowls; try it with other measurements (½ cup, ¼ cup, 2 Tablespoons). By doing this, you will know what different serving sizes look like using your dishes, and you can avoid portion distortion.

Vary Your Protein Routine

1 Vary your protein food choices
Eat a variety of foods from the Protein Foods Group each week. Experiment with beans or peas, nuts, soy, and seafood as main dishes.

2 Choose seafood twice a week
Eat seafood in place of meat or poultry twice a week if you are a healthy adult. Pregnant women and small children should only eat fish once per month.

3 Select lean meat and poultry
Choose lean cuts of meat like round or sirloin and ground beef that is at least 93% lean. Trim or drain fat from meat and remove poultry skin.

4 Check the freezer aisle
Frozen vegetables are quick and easy to use and are just as nutritious as fresh. Try adding frozen vegetables, such as corn, peas, carrots, or spinach, to your favorite dish. Look for frozen vegetables without added sauces, gravies, butter, or cream.

5 Eat plant protein foods more often
Try beans and peas (kidney, pinto, black, or white beans, lentils, hummus), soy products (tofu, veggie burgers), nuts, and seeds.They are lower in saturated fat and some are higher in fiber.

6 Consider nuts and seeds
Choose unsalted nuts or seeds as a snack, on salads, or in main dishes. Nuts and seeds are a concentrated source of calories, so eat small portions to keep calories in check.

7 Keep it tasty and healthy
Try grilling, broiling, roasting, or baking—they don't add extra fat. Some lean meats need slow, moist cooking to be tender—try a slow cooker for them. Avoid breading meat or poultry, which adds calories.

8 Make a healthy sandwich
Choose turkey, roast beef, canned tuna or salmon, or peanut butter for sandwiches. Many deli meats, such as regular bologna or salami, are high in fat and sodium—make them occasional treats only.

9 Think small when it comes to meat portions
Get the flavor you crave but in a smaller portion. Make or order a small turkey burger or a "petite" size steak.

10 Check the sodium
Check the Nutrition Facts label to limit sodium. Salt is added to many canned foods - including soups, vegetables, beans, and meats. Many processed meats - such as ham, sausage, and hot dogs - are high in sodium. Some fresh chicken, turkey, and pork are brined in a salt solution for flavor and tenderness.

Adapted From: United States Department of Agriculture - Center for Nutrition Policy and Promotion. MyPlate MyWins

Food Selection Tips
From the CRST Diabetes Program

Know your portion size. Portion size matters and is part of keeping track of your total carbs, fat, sodium, and calories.

Protein Foods:

- Eggs are an excellent source of protein
- Follow recommended portion sizes for meats – a 3 ounce serving should be about the size of a deck of cards
- Always trim fat from meat
- Choose chicken or turkey breasts, and don't eat the skin
- When cooking hamburger for meat dishes, rinse under hot water to remove the fat

Talk with a registered dietitian to help you plan a healthy diet and better manage your diabetes.

How to Shop for Protein Foods

Protein foods can be bought three ways: fresh, canned, or frozen.

1. When buying fresh meat (tȟaló) products, choose those that have bright and uniform color, feel firm to the touch, and are packaged without tears or holes. Check the date on the package to make sure you will have time to use it before it will go bad.

   Sell By Date – tells the store owner how long the meat can be offered for sale. This is often used on hot dogs, sausage, or other processed meats. Only buy meats before the "sell by" date. Use soon after purchasing.

   Best if Used By Date – the date which the meat should be cooked and eaten by for the best flavor and quality. After this date, meats can have an off-odor and flavor due to spoilage and bacteria. Only buy meats you know you can use before the "best if used by" date.

   Use-By Date – the last recommended date to cook and eat the meat for best quality. Do not buy meats if the "use-by" date has expired or if you know you can't use the meat before the "use-by" date.

Many people find it difficult to purchase and/or prepare proteins due to cost and time-constraints. However, not all proteins are expensive or take a lot of time to cook.

Here are a few examples of how you can buy proteins that are canned and frozen:

2. Canned proteins are a good option because they are not expensive and do not take a long time to cook. Try to avoid purchasing dented cans for the best quality protein product.

Canned beans (omníča) are tasty and inexpensive. Keep a few cans of black beans, kidney beans, pinto beans, great northern beans, or other beans in the pantry for busy nights.

Canned fish and seafood (tuna, salmon) are also inexpensive staples you can use in many recipes – including a few at the end of this lesson!

Tip! Be sure to look for "no salt added" or "low sodium" on the canned items you choose. If low sodium options are not available, rinse canned beans, fish and seafood before using to remove extra salt.

How to Shop for Protein Foods, continued...

3. Frozen proteins are a good choice if you have access to a freezer. You can also freeze fresh protein when you get home from the grocery store to keep it safe for later use.

   Frozen fish fillets and canned tuna, salmon, sardines, or mackerel are budget-friendly choices.

Tip! Frozen white fish fillets like tilapia or haddock are often less pricey than other fish and seafood options. They also have a more mild flavor – good for kids or picky eaters.

Be aware: Prepackaged frozen meals may look tempting, but they are often very high in sodium, calories, fat, and sugar, and low in nutrients. They are also not very cost-effective.

Challenge Yourself!

Cooking for a family

You make your way to the fresh meat section to buy 92% lean ground beef and/or buffalo for your family's taco dinner.

The recipe in your Cheyenne River Cooking for Health cook book states that it serves 8, but your family only has 2 people.

If the recipe calls for 1 pound of lean ground beef and/or buffalo, how much beef and/or buffalo should you buy?

Hint: 1 pound = 16 ounces (serves 8)

__1__ pound equals ____ ounces

____ ounces equals ____ servings

____ servings equals ____ ounces per serving

2 servings equals ____ ounces equals ____ pounds (to purchase)

Hearing about the success about your healthy taco night, your cousin has invited you and several other family members over for taco night and has asked that you bring enough 92% lean ground beef and/or buffalo for 24 people.

The recipe in your Cheyenne River Cooking for Health binder says that the recipe serves 8 people. If the recipe calls for 1 pound of lean ground beef and/or buffalo, how much beef and/or buffalo should you buy to serve 24 people?

__1__ pound equals ____ ounces

____ ounces equals ____ servings

____ servings equals ____ ounces per serving

24 servings equals ____ ounces equals ____ pounds (to purchase)

Answers: for a family of two, you should buy ¾ pounds; for your cousin's taco night, you should buy 3 pounds.

Food Storage & Handling

Shop Safely

- Choose meat packages that are cold and tightly wrapped.
- Look for and avoid package leaks and other damage.
- When grocery shopping, shop for refrigerated and frozen foods last so they stay cold longer.
- Separate raw and cooked meats in your cart when shopping and in your refrigerator at home.

Storing protein safety

- Store raw meat, poultry, fish, and seafood on the bottom shelf of the refrigerator so its juices do not drip on other foods.
- Store frozen foods in airtight containers or packaging.
- Keep freezer temperature at or below 0 degrees F.
- Keep refrigerator temperature at or below 40 degrees F.
- Refrigerate or freeze meat, poultry, fish, and seafood within 2 hours.
- Defrost meat, poultry, fish, and seafood by thawing in the refrigerator, in the microwave, or submerging packaged foods in cold tap water. Never defrost meat, poultry, fish or seafood on the kitchen counter at room temperature.

Food Storage and Handing Continued

Cooking Protein Safely

Wash your cutting boards, dishes and utensils with hot water and soap after preparing each food item and before you go on to the next food.

- Do not eat raw or partially cooked eggs or undercooked meat and poultry.
- Do not wash or rinse meat or poultry.
- After preparing raw meat, wash cutting boards, knives, utensils, and counters with hot soapy water. ***Do not use these to prepare fruit, vegetables, or cooked meats to avoid cross-contamination.***
- **Cook foods to a safe temperature** (see Lesson 1) and use a meat thermometer to ensure that it is cooked all the way through. Place the thermometer in the thickest part of the food, away from bones. Wash the thermometer with hot, soapy water after each use.

Tip! Check out the video on using a meat thermometer in Lesson 1.

Remember:

Wash Hands and Surfaces Often

Foodborne bacteria can't be seen, tasted or smelled. These microorganisms can make you sick if ingested, and they spread through contact with cutting boards, utensils, countertops and food - so ready, set, CLEAN!

Tip! Call the USDA Meat and Poultry Hotline if you have a question about meat, poultry, or egg products, its toll free at **1-888-MPHotline (1-888-674-6854)**.

The Hotline is open year-round Monday through Friday from 10 a.m. to 6 p.m. ET (English or Spanish). Recorded food safety messages are available 24 hours a day. Check out the FSIS Web site at www.fsis.usda.gov.

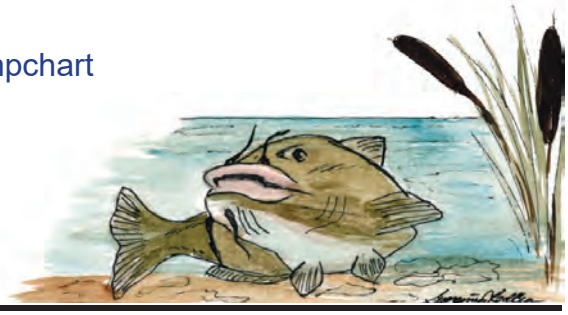
Safe Cooking Guidelines

Cook all food to these minimum internal temperatures as measured with a food thermometer before removing food from the heat source. For reasons of personal preference, consumers may choose to cook food to higher temperatures.

Product	Minimum Internal Temperature & Rest Time
Beef, Pork, Veal & Lamb Steaks, chops, roasts	145 °F (62.8 °C) and allow to rest for at least 3 minutes.
Ground meats	160 °F (71.1 °C)
Ham, fresh or smoked (uncooked)	145 °F (62.8 °C) and allow to rest for at least 3 minutes.
Fully Cooked Ham (to reheat)	Reheat cooked hams packaged in USDA-inspected plants to 140 °F (60 °C) and all others to 165 °F (73.9 °C).

Product	Minimum Internal Temperature & Rest Time
All Poultry (breasts, whole bird, legs, thighs, wings, ground poultry, giblets, and stuffing)	165 °F (73.9 °C)
Eggs	160 °F (71.1 °C)
Fish & Shellfish	145 °F (62.8 °C)
Leftovers	165 °F (73.9 °C)
Casseroles	165 °F (73.9 °C)

Short URL for this page: https://www.fsis.usda.gov/safetempchart



Challenge Yourself!

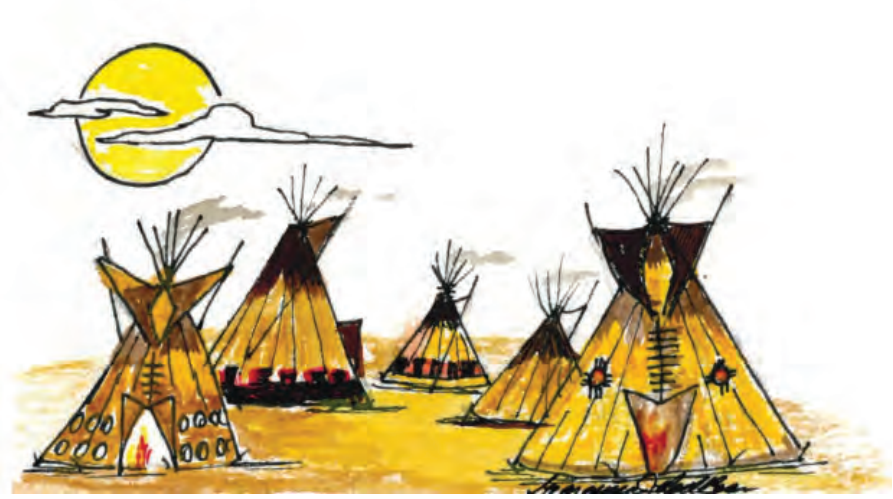
Set a Goal

Choose (kaȟníğa) one of the goals below (or set your own) to try during the next month:

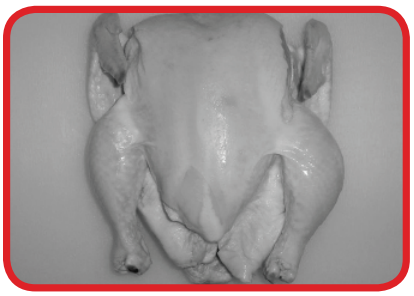
- ❒ I will try new type of protein that I haven't eaten before.
- ❒ I will buy lean meats.
- ❒ I will follow food safety rules for protein foods.
- ❒ I will make a recipe from this lesson.
- ❒ I will: _____

  _____

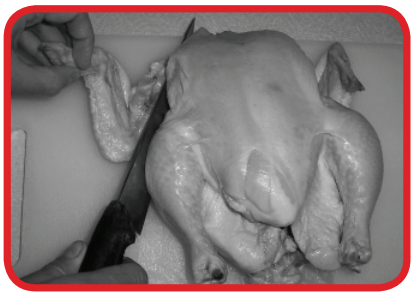
  _____



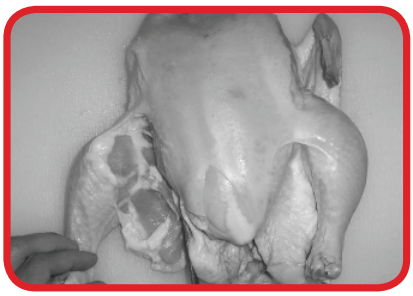
How to Cut a Whole Chicken



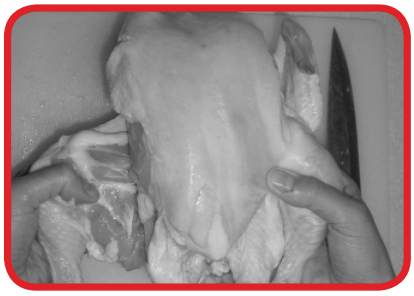
1. Get ready to cut.
- Have a bag or bowl ready for chicken parts.
- Wash your hands.
- Put the chicken on a cutting board, breast side up.



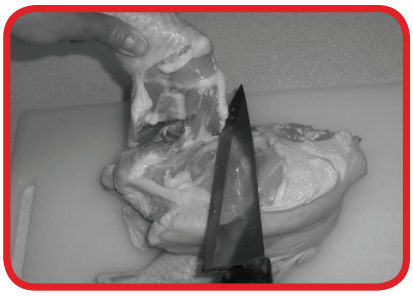
2. Cut off the wing.
- Pull the wing away from the body.
- Cut from the top down through the joint.



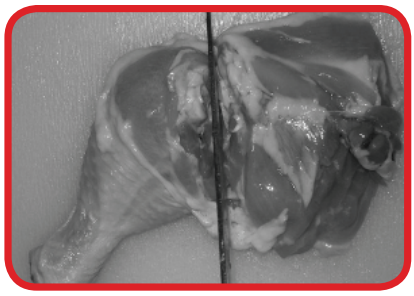
3. Cut the skin between the leg and the body
- Cut skin (not meat) to see where the leg connects to the body.
- Put down the knife.



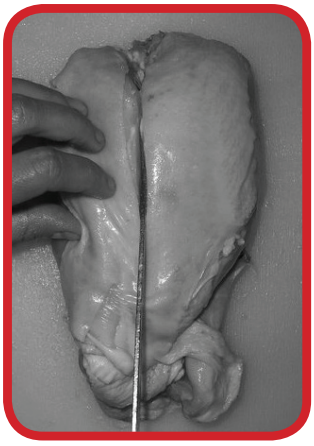
4. Break the hip joint.
- Hold a leg in each hand. Lift the chicken.
- Bend the leg backward until the joint pops.



5. Cut off the leg and thigh.
- Lay the chicken on its side.
- Cut the leg and thigh away from the body.

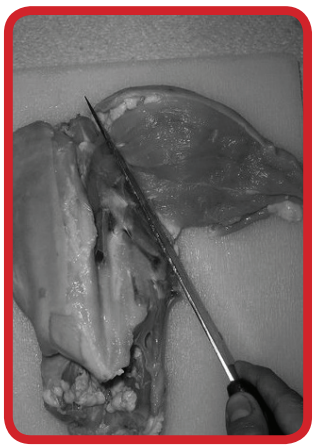


6. Separate the leg and thigh.
- Bend the leg to find the joint.
- Cut through the joint.
- Repeat steps 2-6 on the other side.

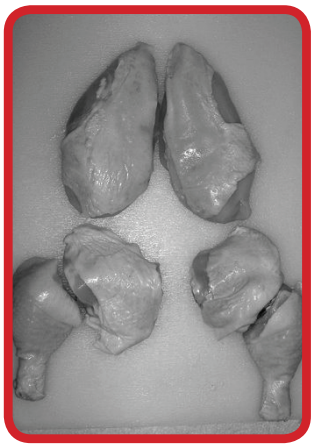


7. Cut between the breasts.
- Make a shallow cut along the breastbone.
- Use your fingers to loosen the meat from the bone.

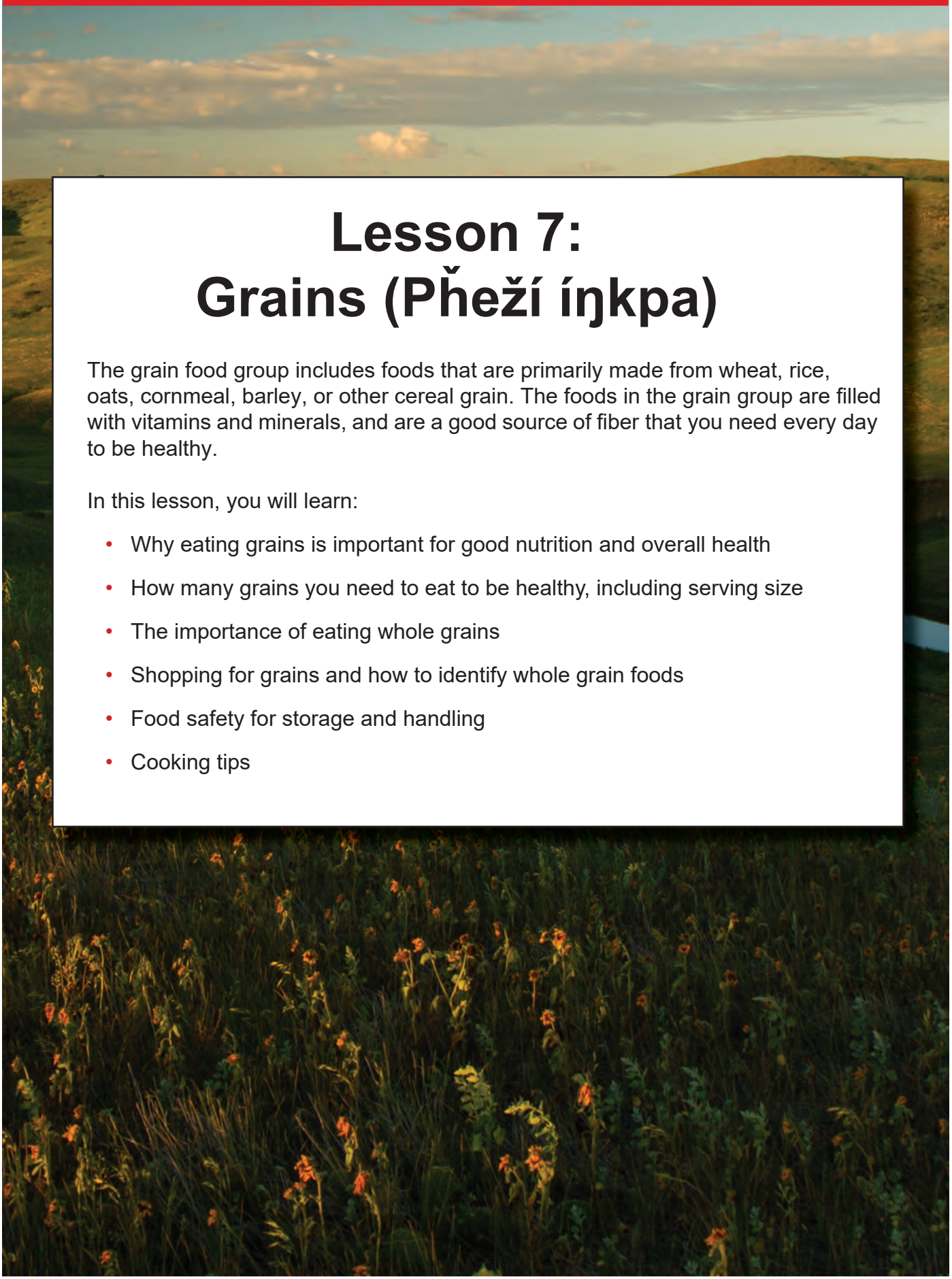
8. Cut breast away from the ribs.
- Guide the knife along the ribcage.
- Make small cuts with the knife tip, pulling the meat away from the bone.



9. Cut off the breast.
- Cut the breast away from the body.
- Repeat steps 7-9 on the other side.



10. Clean up.
- •Remove the skin and any excess fat.
- Use the bones for soup or stock.
- Sanitize the knife and the cutting board.
- Wash your hands.



Lesson 7:
Grains (Pȟeží íŋkpa)

The grain food group includes foods that are primarily made from wheat, rice, oats, cornmeal, barley, or other cereal grain. The foods in the grain group are filled with vitamins and minerals, and are a good source of fiber that you need every day to be healthy.

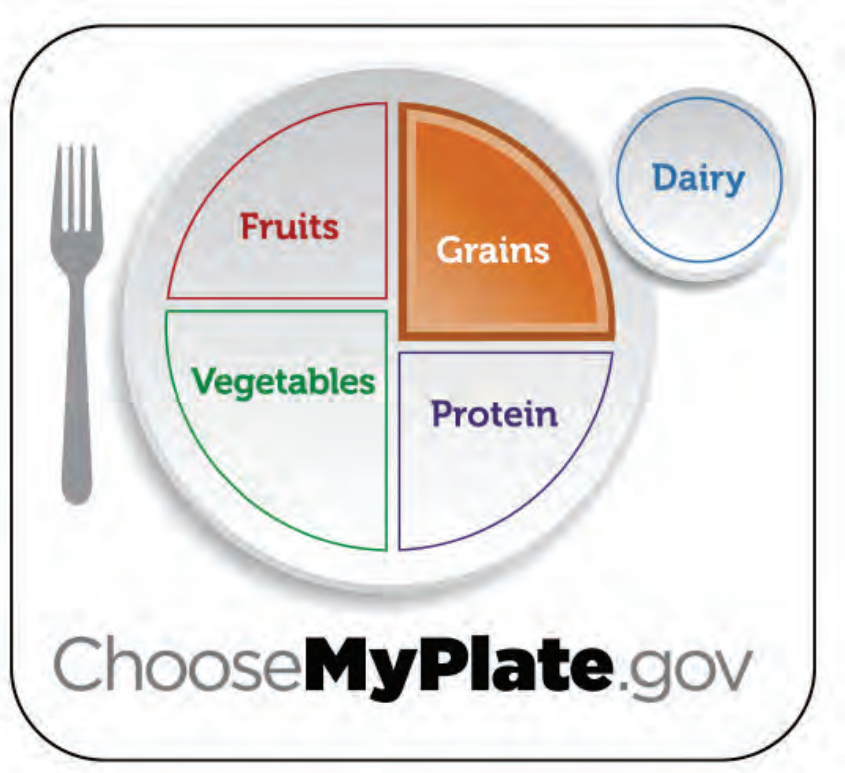
In this lesson, you will learn:

- Why eating grains is important for good nutrition and overall health
- How many grains you need to eat to be healthy, including serving size
- The importance of eating whole grains
- Shopping for grains and how to identify whole grain foods
- Food safety for storage and handling
- Cooking tips

Why Eating Grains (Pȟeží íŋkpa) is Important

Grains are full of vitamins and minerals that keep us healthy. It is important to **make ¼ of your plate grains** at meal time and to **make half your grains whole grains.**

Grains provide many nutrients that are important for your health and body maintenance. Eating grains, especially whole grains, as part of a healthy diet can help reduce the risk of some chronic diseases.



Diabetes Hints… Grains

Healthy eating with diabetes starts with what is on your plate. **Eating grains will raise blood sugar a lot. Always read the Nutrition Facts label to find out what equals a serving.** Try eating smaller portions. One package can contain many servings. Approximately ¼ of your meal plate should be from the grains group.

- **BLOOD SUGAR ALERT** – Grains will raise blood sugar a lot. Always read Nutrition Facts labels to find out what equals a serving.
- **BENEFITS** – Provide energy, fiber, and vitamins.
- **ONE SERVING SIZE EQUALS** – 1 slice of bread, ½ a bun or English muffin, ½ a cup of cooked cereal, 1/3 cup of cooked pasta or rice. Check serving sizes with measuring cups and spoons or a food scale.
- **GRAINS TO TRY** – Whole grain bread, brown rice, or whole wheat pasta; or one small bowl of oatmeal or whole grain cereal.
- **EATING TIPS FOR A MEAL OR SNACK** –
  - Choose whole grain foods whenever possible.
  - Space eating grains and carbohydrates out over the day to help your body keep your glucose level stable.
  - In diabetes meal planning, 1 serving of a food containing carbohydrates has about 15 grams of carbohydrate.
    - 1 slice bread (1 ounce)
    - 1 tortilla (6-inch size)
    - ¼ bagel (1 ounce)
    - 2 taco shells (5-inch size)
    - ½ hamburger or hot dog bun (1 ounce)
    - ½ cup cooked cereal
    - ¾ cup ready-to-eat cereal
    - 4-6 small crackers
    - 1/3 cup pasta or rice (cooked)
    - ¾ ounce pretzels, potato chips, or tortilla chips
    - 3 cups popcorn (popped)

See other sections of this lesson for more information on carbohydrate counting.

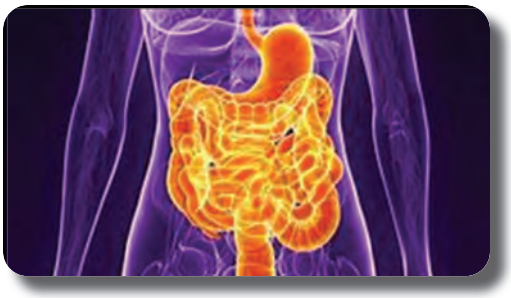
Eating Grains (Pȟeží íŋkpa) Will Help You Stay Healthy

Eating grains, especially whole grains, provides health benefits. People who eat whole grains as part of a healthy diet have a reduced risk of some chronic diseases, including heart disease. Grains provide many nutrients that are vital for the health and maintenance of our bodies.

Nutrients in Grains (Pȟeží íŋkpa) Include:

- Dietary Fiber
- B Vitamins (thiamin, riboflavin, niacin, and folate)
- Minerals (iron, magnesium, and selenium)

Nutrients in Grains (Pȟeží íŋkpa) Include:



Dietary Fiber – from whole grains prevents constipation and helps the body absorb nutrients; also helps to lower blood cholesterol levels and control blood sugar. Dietary fiber also provides a feeling of fullness with fewer calories.

B Vitamins – Thiamin, Riboflavin, and **Niacin** play a key role in converting carbohydrates to energy. They are also important for a healthy nervous system. Many refined grains (white bread, white flour, some cereals, etc) have B vitamins added to the foods. This is often stated on food packages using the term "enriched". **Folate** - is another B vitamin that helps the body produce red blood cells and helps reduce the risk of some birth defects during pregnancy.

Minerals –

Iron – is used to carry oxygen to the blood. Whole and enriched refined grains are major sources of iron in the diet.

Magnesium – is used for building bones and releasing energy from muscles.

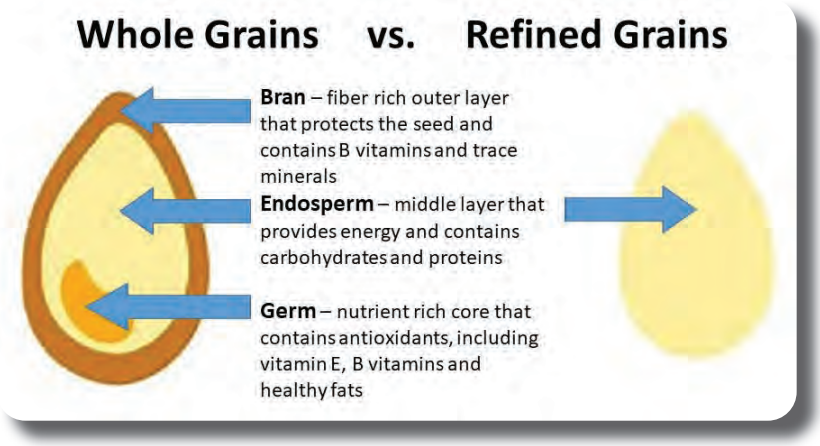
Selenium – is important for a healthy immune system, gives protection from infection, and has anti-inflammatory properties.

What Foods are in the Grains (Pȟeží íŋkpa) Food Group?

Any food made from wheat, rice, oats, cornmeal, barley, or another cereal grain is in the grain group. Some commonly eaten grains are:

- Bread
- Pasta
- Breakfast cereals
- Crackers
- Grits
- Tortillas
- Popcorn
- Rice
- Oatmeal

Difference Between Whole and Refined Grains?



Whole Grains (WG)	Refined Grains (RG)
Contain the entire grain kernel (bran, endosperm, and germ). Higher fiber content.	Have been milled to remove the bran (outer layer) and germ. This gives the grain a finer texture & improves shelf life, but removes dietary fiber, iron and many B vitamins.
Examples:	**Examples:**
Whole-wheat flour	White flour
Bulgur (cracked wheat)	De-germed cornmeal
Oatmeal	White bread
Whole cornmeal	White rice
Brown rice	
Popcorn	
Barley	After processing, many refined grains are enriched with B vitamins (thiamin, riboflavin, niacin, folic acid) and iron.

How Many Grains (Pȟeží íŋkpa) Do You Need Each Day to Be Healthy?

The amount of grains you need to eat depends on your:

- sex
- age
- level of physical activity

Below are the **daily recommendations** for grains consumption for people who get less than 30 minutes of moderate physical activity (such as brisk walking) per day. Those who are more (or less) physically active should talk to their doctor about how many grains they need to eat to be healthy. **Remember that at least half of the grains you eat each day should be whole grains.**

		Total Daily Recommendation in Ounces	Daily Minimum Amount of Whole Grains (WG) in Ounces
Children	2-3 years old 4-8 years old	3 ounces 5 ounces	1½ ounces 2½ ounces
Girls	9-13 years old 14-18 years old	5 ounces 6 ounces	3 ounces 3 ounces
Boys	9-13 years old 14-18 years old	6 ounces 8 ounces	3 ounces 4 ounces
Women	19-30 years old 31-50 years old 51+ years old	6 ounces 6 ounces 5 ounces	3 ounces 3 ounces 3 ounces
Men	19-30 years old 31-50 years old 51+ years old	8 ounces 7 ounces 6 ounces	4 ounces 3½ ounces 3 ounces

What Equals as a Serving of Grains (Pȟeží íŋkpa)?

1 slice of bread, 1 cup of ready-to-eat cereal, or ½ cup of cooked rice, cooked pasta, or cooked cereal can be considered as a 1 ounce-equivalent from the Grains Group. Depending on age, women should consume 5-6 ounces and men should consume 6- 8 ounces per day as part of a healthy diet. **Persons with diabetes should follow the recommendation of their medical provider, dietitian or diabetes educator.** See the table below for what equals a one ounce serving.

HINT: Remember that at least ½ of the grains you eat each day should be whole grains.

Type of Grain and if Whole Grain (WG) or Refined Grain (RG)		Amount that Equals One Ounce of Grains	Common Package or Portion Sizes
Bagels	WG - whole wheat RG - plain, egg	1" mini bagel	1 large bagel = 4 ounces
Biscuits	RG - baking powder or buttermilk	1 small (2" diameter)	1 large (3" diameter) = 2 ounces
Breads	WG - 100% Whole Wheat RG - white, wheat, French, sourdough	1 regular slice 1 small slice, French 4 snack-size slices rye bread	2 regular slices = 2 ounces
Bulgur	WG - cracked wheat	½ cup, cooked	
Cornbread	RG – cornmeal	1 small piece (2½" x 1¼" x 1¼")	1 medium piece (2½" x 2½" x 1¼") = 2 ounces
Crackers	WG - 100% whole wheat, rye RG - saltines, snack crackers	5 whole wheat crackers 2 rye crisp breads 7 square or round crackers	
English muffins	WG - whole wheat RG - plain, raisin	½ muffin	1 muffin = 2 ounces
Muffins	WG - whole wheat RG bran, corn, plain	1 small (2½" diameter)	1 large (3½" diameter) = 3 ounces
Oatmeal	WG	½ cup, cooked 1 packet instant 1 ounce (⅓ cup), dry (regular or quick)	

Serving of Grains (Pȟeží íŋkpa) - Continued

Type of Grain and if Whole Grain (WG) or Refined Grain (RG)		Amount that Equals One Ounce of Grains	Common Package or Portion Sizes
Pancakes	WG – whole wheat, buckwheat RG: buttermilk, plain	1 pancake (4½" diameter) 2 small pancakes (3" diameter)	3 pancakes (4½" diameter) = 3 ounces
Popcorn	WG	3 cups, popped	1 mini microwave bag or 100-calorie bag, popped = 2 ounces
Ready-to-eat breakfast cereal	AWG - toasted oat, whole wheat flakes RG - corn flakes, puffed rice	1 cup, flakes or rounds 1¼ cup, puffed	
Rice	1WG - brown, wild RG - enriched, white, polished	½ cup, cooked 1 ounce, dry	1 cup, cooked = 2 ounces
Pasta-- spaghetti, macaroni, noodles	WG - whole wheat RG - enriched, durum	½ cup, cooked 1 ounce, dry	1 cup, cooked = 2 ounces
Tortillas	WG - whole wheat, whole grain corn RG - Flour, corn	1 small flour tortilla (6" diameter) 1 corn tortilla (6" diameter)	1 large tortilla (12" diameter) = 4 ounces

Food Selection Tips
From the CRST Diabetes Program

Know your portion size. Portion size matters and is part of keeping track of your total carbs, fat, sodium, and calories.

Grains

- Whole grain is a better choice.
- When checking to see if a food is truly a whole grain, look at the ingredient list on the Nutrition Facts label. If the first ingredient says “refined flour”, it is not a whole grain (it’s only white bread that is dyed brown).
- When using the plate method, ¼ of the plate should be whole grains.
- A slice of bread is 15 carbs.
- 1/3 of a cup of rice, noodles and beans each have 15 carbs, so a whole cup is 45 carbs. This is taught during carb counting.

Talk with a registered dietitian to help you plan a healthy diet and better manage your diabetes.

How to Shop for Grains (Pȟeží íŋkpa)

Always read the ingredient list on the package. **Choose foods that list the first ingredient as a whole grain.** The whole grain may be listed as:

- Brown rice
- Buckwheat
- Bulgur
- Millet
- Oatmeal or rolled oats
- Popcorn
- Quinoa
- Rolled oats
- Whole-grain barley
- Whole-grain corn
- Whole-grain sorghum
- Whole-grain triticale
- Whole oats
- Whole rye
- Whole wheat
- Wild rice

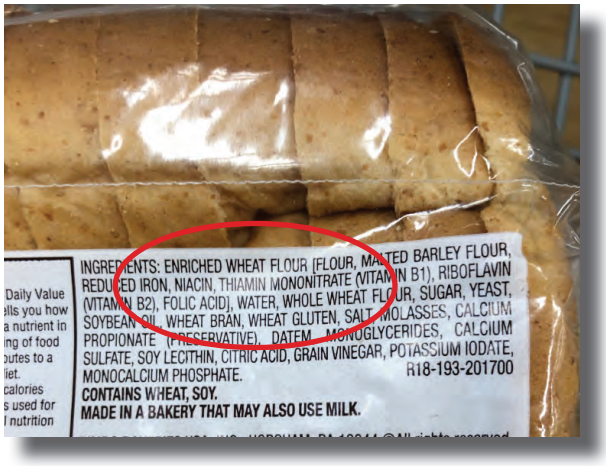
Watch out for the following:

- **Don't be fooled by the name!** Foods labeled with the words "multi-grain," "stone-ground," "100% wheat," "cracked wheat," "seven-grain," or "bran" are usually not whole-grain products.
- **Don't be fooled by the color!** Just because it's brown doesn't mean it's whole grain. Bread can be brown because of molasses or other added ingredients. Read the ingredient list to see if it is a whole grain.
- **Don't be fooled by the other ingredients!** Any whole grains listed after the first ingredient may only be a very small part of the food product.
- **Look for grains that are high in fiber.** Read Nutrition Facts labels and select grains that are higher in fiber (example: whole grain pasta vs. regular pasta). Many, but not all, whole grain products are good or excellent sources of fiber.
- **Look for terms that indicate added sugars,** such as sucrose, high-fructose corn syrup, honey, malt syrup, maple syrup, molasses, or raw sugar. These foods contain extra calories. Read the food ingredient list and choose foods with less added sugar.
- **The amount of sodium (salt) in pre-packaged foods (including breads) can vary widely.** Most sodium in our diet comes from packaged foods. Read the Nutrition Facts label to choose foods that are lower in sodium. Foods with less than 140 mg sodium per serving can be labeled as "low sodium foods". Claims such as "low in sodium" or "very low in sodium" on the front of the food label can help you identify foods that contain less salt.

CONTINUED ON NEXT PAGE

How to Shop for Grains (Pȟeží íŋkpa) - Continued

- **Be on the lookout for new whole grain foods at your local grocery store.** Many stores are starting to carry whole grain pastas, tortillas, crackers, and other whole grain foods. Read Nutrition Facts labels and ingredient lists to identify these foods.



Not Whole Grain Bread.

(Has some whole grains but in lesser amounts)

Definitely a Whole Grain Bread.

Shopping for Cereals

When shopping for cereals, reading the Nutrition Facts label is a must. Don't rely on front-of-package claims, which can be misleading. For example, if the package says the cereal is "now made with whole grains," the amount might be small.

Look for cereals that have:

- 100% whole grain; or a whole grain at the top of the ingredient list
- 5 grams of fiber per serving
- lower amounts of sugar (4-5 grams or less is better)
- Protein. These cereals will help you feel full longer than eating cereal that only contains carbohydrates. However, protein is not needed for a cereal to be healthy.
- lower sodium content (preferably under 180 milligrams per serving)

Tip! Always check the serving size because cereals may list a smaller portion as a single serving than you normally eat.

Tip! Be cautious of cereals that have added fruit because it is often sugar coated. A healthier option is to add your own dried or fresh fruit (such as berries, peaches, bananas, grapes, or raisins) at home.

Choosing Whole-Grain Foods

Whole grains are important sources of nutrients such as magnesium, B vitamins, and fiber. There are many choices available to make half your grains whole grains. But whole-grain foods should be handled with care. Over time and if not properly stored, oils in whole grains can cause spoilage. Consider these tips to select whole-grain products and keep them fresh to eat.

1 Search the Nutrition Facts label

Whole grains can be an easy choice when preparing meals. Choose whole-grain breads, breakfast cereals, and pastas. Look at the Nutrition Facts labels and ingredients lists to find choices lower in sodium, saturated fat, and added sugars.

2 Look for word "whole" at the beginning of the ingredients list

Some whole-grain ingredients include whole oats, whole-wheat flour, whole-grain corn, whole-grain brown rice, and whole rye. Foods that say “multi-grain,” “100% wheat,” “high fiber,” or are brown in color may not be a whole-grain product.

3 Choose whole grains at school

Prepare meals and snacks with whole grains at home so your kids are more likely to choose whole-grain foods at school.

4 Find the fiber on the Nutrition Facts label

If the product provides at least 3 grams of fiber per serving, it is a good source of fiber. If it contains 5 or more grams of fiber per serving, it is an excellent source of fiber.

5 Is gluten in whole grains?

People who can’t eat wheat gluten can eat whole grains if they choose carefully. There are many whole-grain products, such as buckwheat, certified gluten-free oats or oatmeal, popcorn, brown rice, wild rice, and quinoa that fit gluten-free diet needs.

6 Check for freshness

Buy whole-grain products that are tightly packaged and well-sealed. Grains should always look and smell fresh. Also, check the expiration date and storage guidelines on the package.

7 Keep a lid on it

When storing whole grains from bulk bins, use containers with tight-fitting lids and keep in a cool, dry location. A sealed container is important for maintaining freshness and reducing bug infestations.

8 Buy what you need

Purchase smaller quantities of whole-grain products to reduce spoilage. Most grains in sealed packaging can be kept in the freezer.

9 Wrap it up

Whole-grain bread is best stored at room temperature in its original packaging, tightly closed with a quick-lock or twist tie. The refrigerator will cause bread to lose moisture quickly and become stale. Properly wrapped bread will store well in the freezer.

10 What's the shelf life?

Since the oil in various whole-grain flours differs, shelf life varies too. Most whole-grain flours keep well in the refrigerator for 2-3 months and in the freezer for 6-8 months. Cooked brown rice can be refrigerated 3-5 days and can be frozen up to 6 months.

Adapted From: USDA Dietary Guidelines Tip Sheet No. 22 September 2012, Revised October 2016

Challenge Yourself!

Answer the questions below to select which box of crackers is a healthier option to buy:

Option A.

Option B.

1. Is a whole grain food product_____

2. Higher in fiber_____

3. Lower in sugar_____

4. Lower in sodium (salt)_____

5. Healthier option to buy_____

Answers: 1. Option A, 2. Option A, 3. Option A, 4. Option B, 5. Option A

How to Store Grains (Pȟeží íŋkpa)

Always store grains in tightly covered containers. Most uncooked grains can be stored up to one year at room temperature in a cool, dry place. Grains can be stored longer in the freezer. Some whole grains that contain oil can become rancid when stored at room temperature. To avoid whole grains turning rancid, they can be stored in tightly covered containers in the refrigerator.

Food Safety

Raw dough (made with grains) can contain bacteria that cause disease. Flour, cornmeal or other grains don't look like a raw food, but they typically are. This means the grain hasn't been treated to kill E. coli or other bacteria. **Cooking is the only way to effectively kill bacteria.**

Graphic Source: https://www.homebaking.org/baking-food-safety/

Safe food handling practices when cooking or baking with grains:

- Do not taste or eat any raw dough or batter, whether for cookies, tortillas, pizza, biscuits, or pancakes.
- Bake or cook raw dough and batter, such as cornbread, biscuits, pancakes, or cookie dough, etc. before eating.
- Follow the recipe or package directions for cooking or baking at the correct temperature and for the specified amount of time.
- Do not make milkshakes with products that contain raw flour, such as cake mix.
- Do not use raw homemade cookie dough in ice cream.
  - Cookie dough ice cream sold in stores contains dough that has been treated to kill harmful bacteria.
- Keep raw foods (such as flour) separated from ready-to-eat foods.
- Follow label directions to refrigerate foods containing raw dough until it is cooked.
- Clean up areas thoroughly after handling flour or raw dough.
  - Wash your hands with running water and soap.
  - Wash bowls, utensils, countertops, and other surfaces with warm, soapy water.

https://www.foodsafety.gov/keep-food-safe/4-steps-to-food-safety#cook

Cooking with Grains (Pȟeží íŋkpa)

Grains are an important part of many recipes. Use the following tips when cooking with grains:

- Use brown rice or whole-grain pasta in recipes that call for rice or pasta.
- Use whole-grain barley in soups or stews.
- Substitute whole-wheat or oat flour for up to ½ of the flour in baked products (cookies, cakes, breads, muffins, etc.). The food will be heavier and denser.
- Use rolled oats or crushed whole grain cereal as breading for meats and as filler in meatloaf.

Guide to Cooking Whole Grains:

To cook 1 cup of a whole grain…	Use this much broth or water	Bring to a boil and simmer for this amount of time	To make
Whole barley	3 cups	1½ hours	4 cups
Brown rice	2 cups	45 minutes	3 cups
Whole wheat couscous	1½ cups boiling liquid	5 minutes	2½ cups
Quick oats	3 cups	5 minutes	1¾ cups
Whole wheat pasta	4 cups	7-10 minutes	2½ cups
Quinoa (rinse well)	2 cups	15 minutes	4 cups
Wild rice	3 cups	45-60 minutes	2 cups

Pasta Cooking Tips:

- Pasta shapes can be substituted for one another if they are similar in size.
- Follow the package directions for amount of water, cooking time, etc.
- Add pasta to boiling water to cook and stir frequently to prevent pasta from sticking together.
- Don't add oil to the cooking water. It is not needed and will prevent sauces from sticking to pasta.
- If adding cooked pasta to a dish that will be baked in the oven, slightly under cook it because it will absorb the sauce while cooking and become soft.
- Do not rinse pasta after cooking unless the recipe states otherwise (rinsing prevents sauces from clinging to the pasta). Usually, only cold salads require pasta to be rinsed.

Cooking with Grains (Pȟeží íŋkpa) - Continued

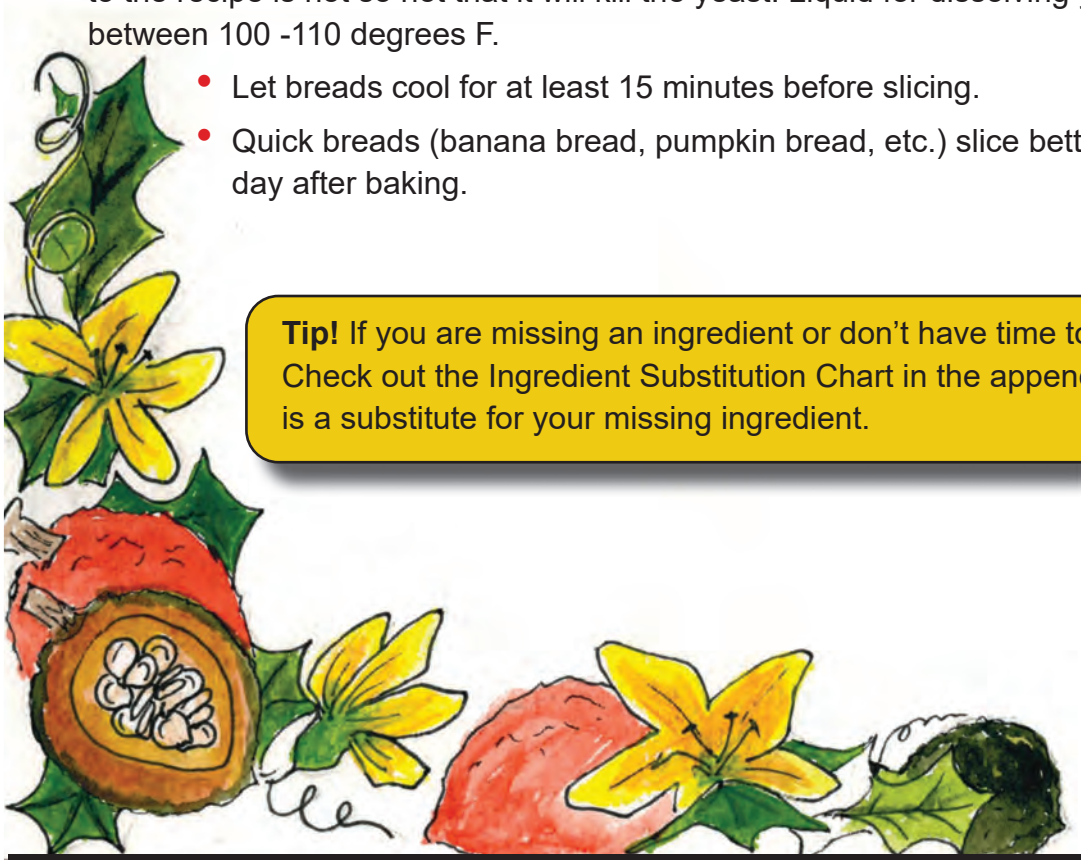
Rice Cooking Tips:

- Always measure rice and water accurately.
- Only rinse rice when directed to on the package or in a recipe.
- Avoid stirring rice when cooking. Stirring makes rice sticky and starchy.
- If rice still has liquid after cooking for the recommended amount of time, uncover it and cook it a little longer on low heat until the liquid is gone.
- Rice that is undercooked has grains with hard, white centers. Rice that is cooked correctly has grains that don't stick together, and are fluffy, yet firm when eaten. Overcooked rice has a mushy texture and the grain will often split open.

Bread Baking Tips:

- Always use fresh ingredients and follow recipe measurements correctly (for example, use dry measuring cups for dry ingredients and liquid measuring cups for liquids).
- When measuring flour, spoon it out of the storage container into the measuring cup and level it off with a flat edge. Do not scoop flour with the measuring cup or shake the measuring cup to put more flour into it because you will end up using too much flour and breads and baked goods will be heavy.
- When making yeast breads, always use a food thermometer to make sure the liquid added to the recipe is not so hot that it will kill the yeast. Liquid for dissolving yeast should be between 100 -110 degrees F.
- Let breads cool for at least 15 minutes before slicing.
- Quick breads (banana bread, pumpkin bread, etc.) slice better if they are cut the day after baking.

Tip! If you are missing an ingredient or don't have time to go to the store… Check out the Ingredient Substitution Chart in the appendix to see if there is a substitute for your missing ingredient.



Carbohydrates and the Grains Group

Persons with diabetes need to pay close attention to what types and how many ounces of grains they consume throughout the day (both as snacks and meals). Many with diabetes are taught to count their carbohydrates (commonly called carbs) using the American Diabetes Association Carbohydrate Counting Method. Additional resources from the American Diabetes Association can be found at **https://www.diabetes.org/resources**

Talk to your dietitian or your diabetes educator; they are there to help you. They have additional resources that can help you manage carbohydrates in your diet. There are also apps available for use on smart phones that allow you to scan Nutrition Facts labels and get the carb count of a food so you can quickly make a decision when shopping to buy a food or not.

Carbohydrate Counting for People with Diabetes

Counting and managing the number of carbohydrate servings you eat in a day can help you control your blood glucose (sugar) level so that you feel better.

What is carbohydrate counting?

Carbohydrate counting is a tool to help you plan your meals and manage your blood glucose level. It also helps you choose what and how much to eat. The balance between carbohydrates you eat and insulin determines what your blood glucose level will be after eating.

How many grams of carbohydrate are best for me?

The recommended number of servings is based on your weight, activity level, diabetes medicines, and goals for your blood glucose levels. **Talk with your dietitian or diabetes educator; they can work with you to make a personalized plan.**

Why should I pay attention to serving sizes for carbohydrate foods?

The amount of carbohydrate you eat can make a big difference in your blood glucose. If you eat more carbs than you normally do at a meal, your blood glucose level is likely to be higher than usual several hours after eating.

Counting carbohydrates using the Nutrition Facts labels is very helpful and can be used when cooking recipes included in this book and others.

To decide on a serving size, check the label for the number of carbohydrate grams (g). One serving is equal to 15 grams of carbohydrates.

HINT: 1 carbohydrate serving is 15 grams of carbohydrate
You can ignore the grams of sugar on the Nutrition Facts label because they are already included in the total grams of carbohydrates.

EXAMPLE	EXAMPLE	EXAMPLE
If the total carbohydrates is 15 grams, then look at the top of the food label for the serving size.	If the total carbohydrate is more than 15 grams, then divide the total by 15.	If the total carbohydrate is less than 15, then multiply the serving size so that your serving will have 15 grams of carbohydrate.
Nutrition Facts	**Nutrition Facts**	**Nutrition Facts**
Recipe Serving Size: 6 crackers	**Recipe Serving Size:** 4 cookies	**Recipe Serving Size:** 1 graham cracker square
Total Carbohydrate: 15g	**Total Carbohydrate:** 30g	**Total Carbohydrate:** 5g
One carbohydrate serving is: 6 crackers	**One carbohydrate serving is:** 2 cookies	**One carbohydrate serving is**: 3 graham cracker squares

Serving sizes for some carbohydrate foods (each has about 15 grams of carbs)

Apple: 1 small (4 ounces)	**Milk, fat-free or reduced-fat:** 1 cup
Bagel: ¼ large (1 ounce)	**Orange juice:** ½ cup
Banana: 1 extra small (4 ounces)	**Pasta or rice (cooked):** ⅓ cup
Bread: 1 slice (1 ounce) or 2 slices reduced calorie bread (1½ ounces)	**Pinto beans or kidney beans (cooked):** ½ cup
Cake (unfrosted): 2-inch square	**Green peas:** ½ cup
Cereal, unsweetened (ready-to-eat): ¾ cup	**Popcorn (popped):** 3 cups
Cereal, cooked: ½ cup	**Potato, mashed:** ½ cup
Cookies: 2 small (2¼ inches across)	**Potato chips:** ¾ ounce (about 9 to 13)
Corn: ½ cup	**Pretzels:** ¾ ounce
Crackers (saltines): 6	**Rice:** ⅓ cup
Fruit, canned: ½ cup	**Sugar:** 1 Tablespoon
Hamburger bun: ½ bun (1 ounce)	**Sweet potato:** ½ cup
Ice cream (light): ½ cup	**Taco shells:** 2 (5 inches across)
Jam or jelly: 1 tablespoon	**Tortilla, corn or flour:** 1 (6 inches across)

Always talk to your healthcare provider and dietitian to learn more about carbohydrate counting.

Source: Toolkit No. 14: ***All About Carbohydrate Counting*** American Diabetes Association 1–800–DIABETES (1-800-342-2383) www.diabetes.org

Challenge Yourself!

Practice carbohydrate counting with two recipes from this lesson.

Homemade Pancakes

Nutrition Facts
Serving Size 1 pancake
Servings Per Container 8

Amount Per Serving	
Calories 110	Calories from Fat 40
	% Daily Value*
Total Fat 4.5g	**7%**
Saturated Fat 0.5g	**3%**
Trans Fat 0g	
Cholesterol 25mg	**8%**
Sodium 160mg	**7%**
Total Carbohydrate 15g	**5%**
Dietary Fiber 0g	**0%**
Sugars 3g	
Protein 3g	**6%**
Vitamin A 4% •	Vitamin C 0%
Calcium 8% •	Iron 4%

*Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

Pancakes

How many carbohydrate servings are in one serving of homemade pancakes?

Nutrition Facts

Recipe Serving Size: _____

Total Carbohydrate: _____

One carbohydrate serving is: _____

Spanish Rice

Nutrition Facts
Serving Size 1 cup
Servings Per Container 6

Amount Per Serving	
Calories 180	Calories from Fat 50
	% Daily Value*
Total Fat 6g	**9%**
Saturated Fat 1g	**5%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 330mg	**14%**
Total Carbohydrate 30g	**10%**
Dietary Fiber 1g	**4%**
Sugars 4g	
Protein 3g	**6%**
Vitamin A 10% •	Vitamin C 15%
Calcium 4% •	Iron 8%

*Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

Spanish Rice

If the total carbohydrate is more than 15 grams, then divide the total by 15.

Nutrition Facts

Recipe Serving Size: _____

Total Carbohydrate: _____

One carbohydrate serving is: _____

Pancake Answer: 1 serving is 1 pancake, 15 grams carbohydrates, 1 carbohydrate serving is 1 pancake (recipe makes 8 pancakes)

Spanish Rice Answer: Recipe serving size = 1 cup, 30 grams carbohydrates, 1 carbohydrate serving is ½ cup

Challenge Yourself!

Set a Goal

Choose (kaȟníğa) one of the goals below (or set your own) to try during the next month:

- ❒ I will try a whole grain food that I haven't eaten before.
- ❒ I will try to eat half of my grains as whole grains.
- ❒ I will check the ingredient list on breads before purchasing to make sure they are whole grain.
- ❒ I will make a recipe from this lesson.
- ❒ I will: _____

  _____

Lesson 8:
Food Budgeting & Meal Planning[1]

Healthy foods can be expensive. But with careful planning and shopping, you can afford to eat healthy foods-- even on a limited budget. Learning how to create and use a food budget and plan meals can help you save time and money (mázaska). In this lesson, you will learn to how to:

- Examine the differences between “food needs” and “food wants”
- Create a food budget
- Create a weekly meal plan
- Compare the cost of packaged foods and similiar foods made from scratch
- Track income and expenses

[1]Material in this chapter was adapted from the University of Maryland Extension Healthy Cents Program and Cooking Matters.

Identifying the Difference Between Food Needs and Food Wants

How do you decide what is a **“food need”** versus a **“food want”**? If you can recognize the difference, you will be able to stretch your food dollars.

Food Needs: A need is something essential for survival. You need to consume basic healthy foods, including fresh, canned, and frozen fruits, vegetables, dairy, whole grains, and lean meats to stay healthy and strong.

Food Wants: A want is something that you would like to have—but can survive without. Both healthy and unhealthy foods can be food wants. Convenience foods, such as instant oatmeal, pre-washed and pre-cut fruits and vegetables, frozen meals, pop, chips, and eating at restaurants or getting take-out are examples of food wants.

Identifying food wants and needs can be confusing. Many packaged healthy foods are **food wants** because you can buy simpler versions of the food for a lot less money (for example: a bag of baby carrots is a **food want** since it is cheaper to buy a bag of regular carrots and peel/wash/cut at home).

Consider basic nutritious foods a need. Once these **food needs** are met, you might have enough food dollars to occasionally buy some **food wants**.

Making Choices Between Food Needs and Food Wants

	Food Need	Food Want
	Vegetables in season Canned vegetables Frozen vegetables	Fresh vegetables out of season Pre-chopped vegetables Individually-packaged vegetables (salad kits, etc.) Frozen vegetables in sauces
	Fruits in season Canned fruits (in water) Dried fruits 100% fruit juice (fresh, bottled or frozen)	Fresh fruits out of season Pre-chopped fruit Pre-made fruit smoothies
	Dried beans Canned beans Whole chicken Lean meats (beef, pork, etc.) Canned fish Eggs	Meat that is pre-cut (chicken), marinated, seasoned, or cooked Processed meats (Spam, sausage, packaged lunch meat, etc.) Frozen meals (banquet chicken, etc.)
	Low-fat or non-fat milk Low-fat or non-fat dried milk Low-fat or non-fat yogurt in tubs Low-fat or non-fat block cheese	Single serving-sized yogurts Sliced cheese Grated cheese Packaged dairy-based desserts, like cheesecake or pudding Ice cream
	Unsweetened whole grain cereal Oatmeal (in tub) Rice Whole-grain pastas/spaghetti	Sugar-coated cereal Brand name cereal Instant oatmeal in individual packages Instant flavored rice or pasta (for example rice-a-roni or pasta-roni)
Other		Pop, chips, cake, donuts, cookies, candy
List some of your food needs and food wants below		

Develop a Food (Wóyute) Budget That Works For You

Food is a major monthly expense for most families. A “food budget” is a plan made ahead of time for spending money on food for you and your family. When you develop a food budget, you look at how much money you have available to spend on food each week or month. Your food budget should be based on your family size and income/other resources.

To create a food budget:

1. Think about all of the resources that you use to buy food. Do you use money from your paycheck? Child support? WIC vouchers? EBT? Commodities? Other resources? Using this information, determine how much money you have per month to spend on food.
2. Next, spend a couple of weeks figuring out how much you currently spend on food. **For the next two weeks:**
    - **Keep track of what you spend on food (and keep receipts).** A simple way to do this is to sit down with your family for a few minutes each night and write down what everyone spent on food that day. Include all food, such as foods bought at the grocery store, food trucks or restaurants, food sales, vending machines, at school games, the movie theater, etc.
    - **After two weeks, add up the total amount your family has spent on food.** Multiply that amount by two, and you’ll have an estimate of how much money you spend on food each month.
    - **Look at your receipts and identify the different types of food purchases you are making.** How much do you spend on restaurant and take-out food? Are there fruits and vegetables on your grocery receipts? Are you buying dairy foods like milk, yogurt and cheese? Are you buying lots of frozen meals or junk food?
3. Once you have an idea of how much you have to spend on food and what you are currently spending on food, develop a food budget for the month based on how much money you plan to spend on food. Questions to consider:
    - Can I afford to order pizza for dinner once a week?
    - Would it be cheaper for me to pack my lunch for work every day instead of buying fast food?
    - Should I prepare all meals from scratch or do I have enough money to buy some healthy convenience foods?

Typical Cost of Food (Wóyute) at Home for Families in the USA

The Cost of Food at Home chart was developed by the United States Department of Agriculture. It shows the estimated cost of a nutritious diet at different cost levels. Use the chart to help you estimate how much money is needed to feed each member of your own family for a month.

The cost levels in the chart are:

Thrifty Food Plan: Minimal-cost healthy meal plan for individuals with the most limited resources. This is the food plan that the government uses to determine the value of the SNAP/EBT benefits. It requires cooking all meals from scratch and spending money for food very carefully.

Low-Cost Food Plan & Moderate-Cost Food Plan: Healthy meals (with more variety) at a higher cost than the thrifty meal plan. The low-cost and moderate-cost plans provide diets consistent with what most people eat.

Liberal Food Plan: Healthy (but expensive) meal plan with more meat and fresh fruits and vegetables than the other meal plans. This plan is double the cost of the thrifty meal plan.

These food plans are estimates based on the diets of many families in the USA. However, every family is different—so you may find that your food budget is different from the estimates provided. Use the chart as a starting point when developing a food budget. Make changes as needed to fit your family needs.

Cost of Food at Home: Average Costs of Food Per Month Per Person in the United States, February 2019				
Child	**Thrifty Plan**	**Low-Cost Plan**	**Moderate-Cost Plan**	**Liberal Plan**
1 year old	$95.10	$127.80	$145.70	$177.10
2-3 years old	$104.00	$134.20	$161.50	$195.80
4-5 years old	$109.60	$137.90	$172.50	$208.70
6-8 years old	$138.90	$192.00	$234.40	$276.90
9-11 years old	$158.10	$208.60	$272.70	$317.90
Man	**Thrifty Plan**	**Low-Cost Plan**	**Moderate-Cost Plan**	**Liberal Plan**
12-13 years old	$168.90	$240.20	$300.80	$354.10
14-18 years old	$174.20	$244.10	$307.70	$356.30
19-50 years old	$186.70	$242.10	$302.70	$369.50
51-70 years old	$170.00	$229.00	$284.30	$343.90
71+ years old	$170.70	$223.90	$280.00	$343.90
Woman	**Thrifty Plan**	**Low-Cost Plan**	**Moderate-Cost Plan**	**Liberal Plan**
12-13 years old	$167.80	$206.60	$251.30	$305.50
14-18 years old	$165.50	$206.10	$245.30	$304.40
19-50 years old	$165.90	$210.00	$257.00	$239.80
51-70 years old	$164.50	$204.50	$254.70	$308.40
71+ years old	$161.10	$201.30	$251.50	$303.80

Meal Planning
Plan ahead to create healthy, budget-wise meals

Meal planning is when you decide in advance what meals your family will eat. Depending on how often you shop for food, you may create a meal plan for a week or two at a time.

Here are some benefits of meal planning:

- **Saves money.** Meal planning helps you avoid unnecessary food purchases. You can plan meals around food that you already have on hand or foods that are on sale.
- **Eat healthier.** Home-cooked meals are often healthier than fast food or convenience foods. When you cook at home, you can control portion size and the amount of fat, sugar and salt in your meals.
- **Less waste.** Using foods that you have on-hand to make meals creates less food waste. You can also use the same ingredients in several meals.
- **Lower stress.** You can plan ahead for busy days so you don't need to worry about meals.
- **Saves time.** Planning ahead means fewer last minute trips to the grocery store.

Money-saving tips to consider when meal planning:

- **Consider your food needs (not food wants).**
- **Consider foods you currently have on hand in your cupboards, pantry, freezer, and refrigerator, etc.**
- **Plan your meals around foods that are on sale.** Look at the grocery store weekly sales paper before you shop. Is chicken breast on-sale this week? How about baked chicken one night? Leftovers can be used to make a chicken salad or casserole.
- **Consider buying frozen or canned fruits and vegetables.** Canned and frozen fruits and vegetables are often less expensive then fresh fruits and vegetables--and just as healthy.
- **Try store brands**. You will get a very similar product for a cheaper price.
- **Limit prepared/convenience foods.** Pre-cut fruits, vegetables, and meats are convenient, but expensive.
- **Always shop with a list.** This helps you remember to buy everything you need and helps reduce impulse buys--which are often food wants, not food needs.
- **Try not to shop when hungry.** If you are hungry, you may be tempted to buy food that is not on your list.
- **Try to shop alone.** When children and other adults help shop, impulse buys of food wants can easily happen.

Time-Saving Tip to Consider When Meal Planning

- **Cook once—eat twice.** Plan at least one meal a week that can be easily doubled (for example, soups and casseroles). Freeze the extra portion to pull out when you don’t have time to cook or put it in the refrigerator and have it later in the week.

Menu Planning Basics

Plan ahead to create healthy, budget-wise meals

Use the worksheets included in this lesson to help you plan your week's menu. Once you have a list of ingredients that you already have on hand and ingredients you need to buy, make a shopping list (Lesson 2 provides lots of information about how to create a shopping list).

Making a menu can be easy. Try these hints:

- ★ Check what you have at home. See what needs to be used (like pantry items, WIC foods, or foods about to go bad.)
- ★ Don't focus on the details. Start by writing down ideas rather than specific recipes.
- ★ Think about ingredients you can use in more than one meal (like foods bought in bulk, leftovers, or herbs.)
- ★ Check store flyers. Look for sale items you could use in your meals.
- ★ Create a shopping list to make sure you buy all the items you need.

Ingredients I have on hand that need to be used:	Ingredients I can use in more than one meal:

Use the chart on the next page to plan out next week's meals

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Breakfast (Pick at least three) ❍ **Vegetables** ❍ **Fruits** ❍ Grains ❍ Dairy ❍ Protein							
Lunch (Pick at least three) ❍ **Vegetables** ❍ **Fruits** ❍ Grains ❍ Dairy ❍ Protein							
Dinner (Pick at least three) ❍ **Vegetables** ❍ **Fruits** ❍ Grains ❍ Dairy ❍ Protein							
Snacks (Pick at least three) ❍ **Vegetables** ❍ **Fruits** ❍ Grains ❍ Dairy ❍ Protein							

Plan balanced meals. Make sure you've got a veggie or fruit with each meal or snack.

What does Convenience Cost?

For About $20, You Could Buy...

X

1 Supreme pizza	$16.00
1 bag chips	$3.29
Tax	$1.42
Total	**$20.71**

OR

X

4 3-piece chicken strip lunch deal (@ $5.00 each)	$20.00
Tax	$0.90
Total	**$20.90**

For About $20, You Could Buy...

X

1 Banquet chicken	$8.39
2 lb frozen French fries	$1.99
½ gallon 1% milk	$1.99
Salad kit	$4.79
Instant pudding	$0.79
1 container strawberries (on sale @ $1.66 each)	$1.66
Tax	$0.88
Total	**$20.49**

OR

5 lb bag potatoes	$2.49
1 lb brown rice	$0.79
1 lb lean ground beef	$4.19
2 lb 10 oz oatmeal	$3.49
½ gallon 1% milk	$1.99
Canned green beans	$0.69
Canned diced tomatoes	$0.79
Onion	$0.59
2 containers strawberries (on sale @ $1.66 each)	$3.32
1 head lettuce	$1.06
Tax	$0.87
Total	**$20.27**

Take the $10 Challenge!

Choose at least one item from each MyPlate food group. Make sure your total cost is $10 or less.

Food Group	Tips	Name of Item	Price of Your Item
Grains 	• Look for whole grain breads, cereals, rice, pastas, crackers, tortillas, or other foods made with whole grains. • Check the ingredient list to make sure a whole grain is listed first.		
Fruits 	• Look for fresh fruits on sale or in season. • Try fruit canned in 100% juice. • Try frozen fruit with no added sugar.		
Vegetables 	• Look for fresh vegetables on sale or in season. • Try canned vegetables that say "low sodium" or "no salt added." • Try frozen vegetables with no added fat or sodium.		
Protein 	• Try buying eggs, beans, or canned fish for an inexpensive source of protein.		
Dairy 	• Look for dairy products made with 1% or nonfat milk.		
		Total ($10 or less)	$__.__

If you are having trouble affording healthy foods after completing the food budgeting and meal planning activities in this lesson, you may need to take a more detailed look at your household income and expenses to find more money (mázaska) for food.

Tracking Income & Expenses (1)

We all make choices about how to spend our money. The key to managing money is to consider the difference between needs and wants. Although we all have different needs and wants, it is important to spend money on needs before wants. Needs are food, clothing and shelter. Wants are the extras and niceties (name brand clothes, satellite tv, newest model iPhone, going to the movies, etc.)

Income: Money and other resources that you have coming in to your household. Examples of common sources of income are: paychecks, child support, unemployment benefits, government assistance, SNAP/EBT benefits, and WIC vouchers.

Expenses: What you spend your income on. Examples of common expenses include housing, food, clothes, gas money if you have a car, medical costs, and childcare.

Tracking Income & Expenses (2)

It may seem overwhelming to keep track of your income and expenses—but it doesn't have to be difficult. First, start with tracking your income. Use this worksheet to list all income received in one month. Use a calculator to add up total income for the month. Write the amount of total income at the bottom of this page.

INCOME PER MONTH

$_____ Wages, paychecks, salaries

$_____ Governmental Temporary Cash Assistance (GA/TCA/TANF)

$_____ Tips, overtime

$_____ Unemployment compensation

$_____ Child support or alimony

$_____ Social Security or pensions

$_____ Other: _____

OTHER ASSISTANCE

$_____ Food Stamps (SNAP, EBT)

$_____ Energy assistance*

$_____ Housing/rent assistance

$_____ Medical assistance*

$_____ Earned Income Tax Credit*

$_____ Other: _____

**Divide by 12 to get monthly amount*

TOTAL of all INCOME for the month $_____

Managing Your Money: Tracking Expenses

Write down everything that you and your family spend money (mázaska) on throughout the month. Use this worksheet as a guide. Use a calculator to add up total expenses for the month. Write the amount of total expenses at the bottom of this page.

HOUSING AND UTILITIES

$_____Rent or house payment
$_____Electricity
$_____Heating (propane, etc.)
$_____Phone (landline and cell)
$_____Home maintenance (home repairs, cleaning supplies, etc.)
$_____Water/sewer
$_____Property taxes
$_____Internet
$_____Garbage
$_____Other:_____
$_____TOTAL

CLOTHING & PERSONAL CARE

$_____Clothing, shoes, and boots
$_____Diapers
$_____Laundry
$_____Haircuts
$_____Personal products
$_____Child(ren)'s allowances
$_____Other:_____
$_____TOTAL

TRANSPORTATION

$_____Car/truck payment
$_____Car insurance
$_____Tires and repairs
$_____Gas, oil, etc.
$_____License and insurance
$_____Other:_____
$_____TOTAL

CHILD CARE

$_____Child care/daycare/babysitting
$_____Child support
$_____Other:_____
$_____TOTAL

EDUCATION AND RECREATION

$_____Tuition, school supplies
$_____Activities (sports, music, etc.)
$_____Television services (satellite, etc.)
$_____Vacations, weekend trips
$_____Other:_____
$_____TOTAL

FOOD

$_____Groceries
$_____Food away from home
$_____School lunches
$_____Baby formula
$_____Special occasions, parties, holidays
$_____Other:_____
$_____TOTAL

MEDICAL AND DENTAL

$_____Insurance
$_____Doctor/hospital
$_____Dentist
$_____Eye care
$_____Prescriptions
$_____TOTAL

CREDIT PAYMENTS

$_____Student loans
$_____Payment _____
$_____Payment _____
$_____Payment _____
$_____TOTAL

OTHER EXPENSES

$_____Savings, emergency fund
$_____Stamps, postage
$_____Pet food and care
$_____Other:_____
$_____TOTAL

TOTAL of all EXPENSES for the month $ _____

Managing Your Money: Comparing Income & Expenses

After completing the "Tracking Income" and "Tracking Expenses" worksheets, take a few minutes to compare your income and expenses.

★ Do you have enough income to cover your expenses? If not, you need to decrease your expenses or increase your income.

To decrease food expenses, consider:

- Cook meals at home.
- Bring a packed lunch to work.
- Limit the purchase of frozen meals and/or convenience foods.
- Plan meals based on foods that you have on hand or that are on sale.
- Plan for and use leftovers.
- Start a garden for fresh and inexpensive produce during the summer.
- Buy generic or store brands (rather than name brands).

Other expenses to consider cutting:

- Get rid of satellite television.
- Lower your cell phone minutes if you can.
- Cancel magazine and/or newspaper subscriptions.
- Sell extra items you have around your home that you don't use.
- Carpool whenever possible.

Managing Your Money: Create a Spending Plan

Once you have a good sense of your income and expenses, you can develop a spending plan based on needs, wants, income, expenses, and the changes in expenses that you have decided to make. Use this worksheet to write down your spending plan.

HOUSING AND UTILITIES

$_____Rent or house payment
$_____Electricity
$_____Heating (propane, etc.)
$_____Phone (landline and cell)
$_____Home maintenance (home repairs, cleaning supplies, etc.)
$_____Water/sewer
$_____Property taxes
$_____Internet
$_____Garbage
$_____Other:_____
$_____TOTAL

CLOTHING & PERSONAL CARE

$_____Clothing, shoes, and boots
$_____Diapers
$_____Laundry
$_____Haircuts
$_____Personal products
$_____Child(ren)'s allowances
$_____Other:_____
$_____TOTAL

TRANSPORTATION

$_____Car/truck payment
$_____Car insurance
$_____Tires and repairs
$_____Gas, oil, etc.
$_____License and insurance
$_____Other:_____
$_____TOTAL

CHILD CARE

$_____Child care/daycare/babysitting
$_____Child support
$_____Other:_____
$_____TOTAL

EDUCATION AND RECREATION

$_____Tuition, school supplies
$_____Activities (sports, music, etc.)
$_____Television services (satellite, etc.)
$_____Vacations, weekend trips
$_____Other:_____
$_____TOTAL

FOOD

$_____Groceries
$_____Food away from home
$_____School lunches
$_____Baby formula
$_____Special occasions, parties, holidays
$_____Other:_____
$_____TOTAL

MEDICAL AND DENTAL

$_____Insurance
$_____Doctor/hospital
$_____Dentist
$_____Eye care
$_____Prescriptions
$_____TOTAL

CREDIT PAYMENTS

$_____Student loans
$_____Payment _____
$_____Payment _____
$_____Payment _____
$_____TOTAL

OTHER EXPENSES

$_____Savings, emergency fund
$_____Stamps, postage
$_____Pet food and care
$_____Other:_____
$_____TOTAL

TOTAL of all EXPENSES for the month $ _____

Managing Your Money: Try Out Your Spending Plan

Once you have developed a spending plan for you and your family, it is important to see if it is working for you. Record what you spend each day, every day (including change and small bills) for a month or two to see if your spending plan is realistic. You might have to make some changes in your plan. Don’t worry if it does not work perfectly at first. Most families find they need to revise the first draft of their spending plan.

Challenge Yourself!

Use a calculator to find the difference between each family's income and expenses. Record this amount on the handout and decide if the family's income is enough to cover expenses. Then, help each family come up with a few ideas for decreasing expenses.

Family 1: Kim is a single mom who is looking for work. She has a 14-month old baby boy named Sam. Kim's cousin watches Sam while Kim looks for work. Kim receives Government Cash Assistance, and both WIC and SNAP/EBT. Kim also receives child support payments.

Each month, Kim finds that she must choose between paying less on one or two of her bills or borrowing food or money from others to help pay her bills.

Income	Amount Per Month
Governmental Cash Assistance	$450
WIC Benefits	$40
SNAP/EBT Benefits	$130
Child Support	$200
Total Monthly Income	**$820**
Expenses	
Rent	$500
Utilities (electricity, heat, water)	$60
Cable television	$50
Cell Phone	$40
Diapers	$40
Groceries	$175
Food away from home (take-out, restaurants)	$75
Gasoline/Car Maintenance	$50
Total Monthly Expenses	**$990**

1. Compare Kim's **total monthly income and total monthly expenses**. Is there enough income to cover the family's expenses?

   Total monthly income $_____

   Total monthly expenses minus $_____

Difference between total monthly income and total monthly expenses $_____

2. If **total monthly expenses** are more than **total monthly income**, Kim will need to make some changes. What are some expenses that Kim could consider changing?

   _____

   _____

   _____

ANSWER: (1) Total monthly income: $820; Total monthly expenses: $990; Difference: $170. (2) get rid of cable; don't get take-out or eat at restaurants

Family 2: Rachel and Bill own their home. They have a 2 year-old son (Daniel), and Rachel has an 8 year-old daughter (Lynn) from a previous marriage. They have a dog. Bill works full time at the local gas station. Rachel works at a fast food restaurant. Rachel and Bill receive SNAP (Food Supplement/EBT) each month. Bill had some medical expenses last year that were not covered by his medical insurance. They borrowed money from Rachel's parents to pay the bill, and are paying Rachel's parents $100 each month for the loan. They own an old car, and last month they had $250.00 in repairs which they paid with a credit card.

Income	Amount Per Month
Bill's paychecks	$1,250
Rachel's paychecks	$900
SNAP/EBT Benefits	$55
Total Monthly Income	**$2,205**
Expenses	
Mortgage/House Payment	$600
Utilities (electricity, heat, water)	$125
Cable television and internet	$125
Cell phones	$80
Gasoline	$40
Clothing	$35
Personal products (shampoo, haircuts, etc.)	$20
Daycare	$500
Loan payment	$100
Credit card payment	$80
Food	$400
Car insurance	$150
Dog food/supplies	$20
Total Monthly Expenses	**$2,275**

1. Compare Rachel and Bill's **total monthly income and total monthly expenses**. Is there enough income to cover the family's expenses?

   Total monthly income $_____

   Total monthly expenses minus $_____

Difference between total monthly income and total monthly expenses $_____

2. If **total monthly expenses** are more than **total monthly income**, Rachel and Bill will need to make some changes. What are some expenses that Kim could consider changing?

_____

_____

_____

ANSWER: (1) Total monthly income: $2,205; Total monthly expenses: $2,275; Difference: $70. (2) get rid of cable and/or internet; use cheaper personal products; carpool to work if possible

Challenge Yourself!

Set a Goal

Choose (kaȟníğa) one of the goals below (or set your own) to try during the next month:

- ❒ When planning a meal, I will consider my food needs and wants.
- ❒ I will create a menu plan for the week.
- ❒ I will track my food expenses for two weeks to learn how much I am spending on food.
- ❒ I will check for sales in the grocery store weekly sales paper.
- ❒ I will: _____

  _____

Lesson 9:
Empty Calories

"Empty calories" are foods that contain lots of added sugar and/or solid fat, and have no nutritional value. Pop, sweet tea, fruit-flavored drinks, sports drinks, energy drinks, alcohol, crackers, and chips are examples of foods that contain empty calories. Empty calories cause weight gain and high blood sugar. To maintain optimal weight and blood sugar control, it is important to avoid foods with empty calories.

In this lesson, you will learn:

- What types of food contain empty calories
- Health effects of eating empty calories
- Healthier alternatives to foods that contain empty calories
- How to choose healthy fats and oils

What Types of Food (Wóyute) Contain “Empty Calories”?

Foods with empty calories are high in added sugar or solid fats.

Added sugar: sugars and syrups that are added when foods or beverages are processed or prepared.

Solid fats: fats that are solid at room temperature, like butter, beef fat, and shortening. Some solid fats are found naturally in foods. They can also be added during food processing or food preparation. Foods that contain solid fats are often high in saturated fat and/or trans fat.

Common foods that contain “empty calories” include:

- Pop, fruit-flavored drinks, sweet tea, sports drinks, energy drinks, and alcohol (contain added sugar)
- Sweets (for example, candies, cookies, cake, ice cream) (contain both added sugar & solid fat)
- Crackers (contain both added sugar & solid fat)
- Sweetened yogurt (contains both added sugar & solid fat)
- Chips (contains solid fat)
- Pizza (contains solid fat)
- Processed meat (for example, Vienna sausages, hot dogs, Spam) (contain solid fat)

Why should I avoid “empty calories”?

- Empty calories (from foods or drinks high in added sugar and/or solid fats) can lead to weight gain. Being overweight can contribute to heart disease, poor blood sugar control, and other chronic diseases.
- Empty calories (from foods or drinks high in sugar) can lead to tooth decay/cavities. Tooth decay/cavities can contribute to heart disease and stroke.
- Empty calories (from foods high in solid fats) can raise levels of “bad” cholesterol (LDL). High levels of “bad” cholesterol (LDL) can contribute to heart disease and stroke.

Added Sugars are a Major Source of Empty Calories.

Cut Back on Added Sugars!

Be a sugar detective.

Added sugar is added by the manufacturer during processing. Check the ingredient list. If these names for added sugar are on the list, it means the food or drink has added sugar:

- Brown sugar
- Corn sweetener
- Corn syrup
- Dextrose
- Fructose
- Glucose
- High-fructose corn syrup
- Honey
- Invert sugar
- Lactose
- Malt syrup
- Maltose
- Molasses
- Raw sugar
- Sucrose
- Trehalose
- Turbinado sugar

Nutrition Facts
Serving Size 1 1/4 cups
Servings Per Container 6

Amount Per Serving	
Calories 220	Calories from Fat 40
	% Daily Value*
Total Fat 4.5g	**7%**
Saturated Fat 0.5g	**3%**
Trans Fat 0g	
Cholesterol 15mg	**5%**
Sodium 470mg	**20%**
Total Carbohydrate 40g	**13%**
Dietary Fiber 7g	**28%**
Sugars 8g	
Protein 8g	**16%**

Vitamin A 20% • Vitamin C 60%
Calcium 4% • Iron 10%

*Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2400mg	2400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

You may see **Sugars** on the Nutrition Facts label.

Compare Labels

Sugars includes both added sugars and natural sugars. Healthy foods like fruit, 100% juice, plain milk and yogurt, and vegetables contain sugar naturally. These are not added sugars.

You can compare the amount of sugars on the label for two similar products (like two brands of strawberry yogurt). If the products have similar ingredients, the brand lower in sugars probably has less added sugar.

Read Nutrition Facts Labels to See How Much Sugar Your Favorite Foods (Wóyute) & Drinks Contain

Typically, Nutrition Facts labels report sugar in grams. You must divide by 4 to obtain the number of teaspoons of sugar per serving. **To determine how many teaspoons of sugar are in your favorite foods and drinks, use the conversion:**

4 grams of sugar equals one teaspoon of sugar

Pop, Fruit-Flavored Drinks, Sweet Tea, Energy Drinks, Sports Drinks, and Alcohol are High in Empty Calories

- What you choose to drink has large effects on your weight and blood sugar levels.
- One serving (12 ounce can) of pop has 40 grams of sugar. This is equivalent to 10 teaspoons of sugar.
- One serving (20 ounce bottle) of Gatorade has 34 grams of sugar. This is equivalent to about 8 ½ teaspoons of sugar.
- One serving (11.2 ounce bottle) of Mike's Hard Lemonade has 30 grams of sugar. This is equivalent to 7 ½ teaspoons of sugar.

Sweets are High in Empty Calories

- Eating sweets, such as candies, cookies, cake, and ice cream, may have large effects on your weight and blood sugar levels.
- 4 Oreo cookies have 19 grams of sugar. This is equivalent to about 5 teaspoons of sugar.

=

Crackers are High in Empty Calories

- Although some consider crackers a healthier alternative to cookies, many crackers have lots of sugar.
- 4 Ritz crackers have 4 grams of sugar. This is equivalent to 1 teaspoon sugar.

=

Sweetened Yogurt is High in Empty Calories

- Yogurt is often considered a healthy food, but sweetened yogurt is full of sugar. Eating sweetened yougurt may have large effects on your weight and blood sugar levels.
- 1 cup of sweetened vanilla yogurt has 33 grams of sugar. This is equivalent to 8 teaspoons of sugar.

=

Challenge Yourself!

To determine how many teaspoons of sugar are in your favorite foods,

divide the grams of sugar listed on the Nutrition Facts label by 4.

Using the Nutrition Facts labels below, figure out how many teaspoons of sugar are in each item:

Dairy Queen Chocolate Brownie Extreme Blizzard (size large)

Nutrition Facts
Serving Size 1 blizzard
Servings Per Container 1

Amount Per Serving	
Calories 1120	
	% Daily Value*
Total Fat 50g	77%
Saturated Fat 28g	140%
Trans Fat 1g	
Cholesterol 100mg	33%
Sodium 600mg	25%
Total Carbohydrate 155g	52%
Dietary Fiber 6g	24%
Sugars 123g	
Protein 22g	44%

*Percent Daily Values are based on a 2,000 calorie diet.

_____ **grams sugar divided by 4 =**

_____ **teaspoons sugar (per serving)**

Monster Energy Drink (single can)

Nutrition Facts
Serving Size 1 8 fl. oz (240 mL)
Servings Per Container 2

Amount Per Serving	
Calories 100	
	% Daily Value*
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 180mg	8%
Total Carbohydrate 27g	9%
Dietary Fiber 0g	0%
Sugars 27g	
Protein 0g	0%

*Percent Daily Values are based on a 2,000 calorie diet.

_____ **grams sugar divided by 4 =**

_____ **teaspoons sugar (per serving)**

Remember: There is more than one serving in a single can. To figure out the number of teaspoons of sugar in the whole can, you must double the number of teaspoons per serving (because there are two servings per can).

Answer: Blizzard: 30 ¾ teaspoons sugar per serving; Monster: 6 ¾ teaspoons sugar per serving

Finding Alternatives to Sugary Foods & Drinks

Add less sugar to what you eat and drink.

Leave it out or limit how much sugar, honey, and syrup you put on foods and in drinks.

Try healthier swaps for food high in added sugar.

Watch out for added sugars in these foods:	Try these instead:
Desserts (like candy, cookies, cake, and ice cream)	Fruit-based desserts with less added sugar like Fruit Tarts or Banana Crumble. For a more low-key, weeknight dessert, serve fresh, frozen, or canned fruit, or try Apple Salad.
Sugary cereal or flavored yogurt	Add fruit to unsweetened cereal or plain yogurt. Try Yogurt Parfaits.
Drinks with added sugar (like soda, energy drinks, sports drinks, fruit drinks, sweetened coffee or tea, and chocolate milk)	Water, unflavored fat-free (skim) or low-fat (1%) milk, or small portions of 100% juice. Try mixing seltzer water with 100% juice or flavoring tap water with fruit slices and herbs.
Fruit canned in syrup or sweetened applesauce	Fruit canned in 100% juice or no sugar added applesauce. Or, try making your own applesauce with fresh apples, water, and a little cinnamon.
Jams, syrups, and sweet toppings	Instead of pancakes with syrup, try Orange Oatmeal Pancakes and skip the syrup or just use a little. Instead of peanut butter and jelly, try peanut butter with apples or bananas, or Peanut Butter and Banana Pockets.
Convenience and prepackaged foods like pizza, pasta sauce, bottled salad dressing, and crackers	Make your own pizza, tomato sauce, and salad dressing. Look for whole grain crackers with no added sugar.

Drink to Your Health

Drink Water and Milk Often

Water and milk have fewer calories and are better for our health.

Water

- Choose tap water over bottled water. It’s safe and it’s free.
- Add flavor to water. Mix in fresh fruit slices or mint leaves!

Milk

- Choose fat-free (skim) or low-fat (1%) milk. It has the same amount of calcium as whole milk, but less fat and fewer calories.

Drink 100% Juice Sometimes

Juice can provide key nutrients but is high in calories and low in fiber.

100% Fruit Juice

- Check the label to be sure it’s 100% juice.
- Lighten it up. Mix with seltzer water to make healthy "sodas.”

Limit or Avoid Drinks with Added Sugar

Drinks with added sugar are packed with calories. They don’t give you the nutrients you need.

Instead Of...	Try This
Soda or pop	Combine 100% juice and seltzer water to make healthy “sodas” with no added sugar and fewer calories.
Fruit-Flavored Drinks	Choose 100% juice. Or, flavor tap water with fresh fruit slices or mint leaves.
Sports or Energy Drinks	Replace the fluids you lose being active with water.

Know Your Fats: Some Fats & Oils Are a Major Source of Empty Calories

Fats and oils are vital to our health, but not all fats are created equal.

Fats come in two major forms:

Oils: fats that are liquid at room temperature, like canola oil, vegetable oil, and olive oil. Oils primarily come from plants.

Solid fats: fats that are solid at room temperature, like butter, beef fat, and shortening. Some solid fats are found naturally in foods. They can also be added during food processing or food preparation. Foods that contain solid fats are high in saturated fat and trans fat.

Not all foods high in fat contain empty calories. However, many foods high in saturated fat and trans fat contain extra calories that you don't need.

Know Your Fats: Unsaturated Fat, Saturated Fat, Trans Fat

It is important to know the difference between the major sources of fat (unsaturated fat, saturated fat, and trans fat) to determine if your favorite foods contain empty calories. Many foods that are high in saturated fat and trans fat are major sources of empty calories.

	Unsaturated Fat	Saturated Fat	Trans Fat
Are these fats good for you?	**Yes** • Lowers "bad" cholesterol (LDL) • Lowers your risk of heart disease & stroke • Provides fats your body needs	**No** • Raises "bad" cholesterol (LDL) • Raises your risk of heart disease & stroke	**No** • Raises "bad" cholesterol (LDL) • Lowers your "good" cholesterol (HDL) • Raises your risk of heart disease & stroke
Which foods contain these fats?	• Avocados • Mayonnaise and oil-based salad dressings • Nuts • Peanut butter • Olives • Seeds • Soft margarine (liquid, spray, or tub) • Vegetable oils (olive oil, canola oil, sunflower oil) • Fatty fish, like salmon	• Beef fat (tallow & suet), chicken fat, pork fat (lard) • Cream & milk • Dairy products (butter, regular full-fat cheese, cream cheese, sour cream) • Dairy desserts (ice cream, pudding) • Grain-based desserts (brownies, cakes, cookies, doughnuts, pastries, pies, sweet rolls) • Fast food • Meats & poultry • Processed meats (Vienna sausages, hot dogs, Spam) • Savory snacks (chips, crackers, microwave popcorn	• Coffee creamer • Fast food • Frozen pizza • Grain-based desserts (brownies, cakes, cookies, doughnuts, pastries, pies, sweet rolls) • Store-bought frosting • Refrigerated dough products (biscuits, cinnamon rolls) • Savory snacks (crackers, microwave popcorn) • Vegetable shortening & stick margarine
How much should you eat each day?	Most of the fat you eat should be unsaturated	Limit the amount of saturated fat you eat each day to less than 10% of your total calories. Choose unsaturated fats instead	Avoid trans fat

Check the Nutrition Facts Label to See What Types of Fat are in Your Favorite Foods (Wóyute) and Drinks

Taking a Closer Look at Unsaturated Fat

Nutrition Facts

Serving Size 1 package (272g)
Servings Per Container 1

Amount Per Serving	
Calories 300	Calories from Fat 45
	% Daily Value*
Total Fat 5g	**8%**
Saturated Fat 1.5g	**8%**
Trans Fat 0g	
Polyunsaturated Fat 1.5g	
Monounsaturated Fat 1g	
Cholesterol 30mg	**10%**
Sodium 430mg	**18%**
Total Carbohydrate 55g	**18%**
Dietary Fiber 6g	**24%**
Sugars 23g	
Protein 14g	
Vitamin A	80%
Vitamin C	35%
Calcium	6%
Iron	15%

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Saturated Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Unsaturated fats can reduce the risk of developing heart disease when eaten in place of saturated fat.

What They Are

Unsaturated fats are found in higher proportions in plants and seafood, and are usually liquid at room temperature. Monounsaturated fat and polyunsaturated fat are two kinds of unsaturated fats.

Where They Are Found

Unsaturated fats are in a variety of foods, including:

- Avocados
- Mayonnaise and oil-based salad dressings
- Nuts, Olives
- Fish
- Seeds
- Soft margarine (liquid, spray, and tub)
- Sunflower and olive oils

What They Do

- Unsaturated fats provide calories and help the body absorb certain vitamins, cushion and insulate the body, and support many body processes.
- Unsaturated fats contribute vitamin E to the diet.

Unsaturated Fat Continued

Health Facts

- When eaten in place of saturated fat, unsaturated fats can lower levels of total cholesterol and “bad” cholesterol (LDL) in the blood. **This can reduce the risk of developing heart disease.**
- The Dietary Guidelines for Americans recommends consuming less than 10% of your calories per day from saturated fat by replacing saturated fat with unsaturated fats.
- Although unsaturated fats can have a beneficial effect on your health, they are still a concentrated source of calories. Therefore, they should be eaten in place of saturated fat (rather than added to the diet).

Action Steps

For Replacing Saturated Fat with Unsaturated Fats

Use the **Nutrition Facts label** as your tool for replacing saturated fat with unsaturated fats. The Nutrition Facts label on food and beverage packages shows the amount in grams (g) and the Percent Daily Value (%DV) of total fat and saturated fat in one serving of the food.

- ☐ Cook and bake with liquid oils instead of solid fats (such as butter, lard, and shortening).
- ☐ Try fish and plant sources of protein (such as soy products and unsalted nuts and seeds) in place of some meats and poultry.
- ☐ Sprinkle slivered nuts on salads instead of bacon bits, or snack on a small handful of unsalted nuts or seeds rather than chips or salty snack foods.
- ☐ Instead of using creamy salad dressings, make your own flavorful dressings with vinegar and oil.

Taking a Closer Look at Saturated Fat

Saturated fat can increase the risk of developing heart disease.

Saturated fat is a nutrient to get less of.

What It Is

Saturated fat is found in higher proportions in **animal products** and is usually **solid at room temperature**.

Where It Is Found

- Beef fat, chicken fat, and pork fat
- Cream, whole milk, and 2% milk
- Butter, cheese, cream cheese, sour cream, and ice cream
- Desserts (puddings, brownies, cakes, cookies, doughnuts, pies, and rolls)
- Fast food
- Meats and poultry
- Nuts
- Processed meat (bacon, hot dogs, lunch meats, Spam, and sausages)
- Coconut, palm, and palm kernel oils
- Chips, crackers, and microwave popcorn
- Candy
- Shortening and stick margarine

What It Does

- Saturated fat provides calories and helps the body absorb certain vitamins, cushions and insulates the body, and supports many body processes.

Health Facts

Saturated Fat Continued

- Most of us exceed the recommended limits for saturated fat in the diet.
- Saturated fat can raise the levels of total cholesterol and "bad" cholesterol (LDL) in the blood. **This can increase the risk of developing heart disease**.
- The *Dietary Guidelines for Americans* recommends consuming **less than 10% of calories per day from saturated fat** by *replacing* saturated fat with unsaturated fats.

Action Steps

For Reducing Saturated Fat in Your Diet

Use the **Nutrition Facts label** as your tool for reducing consumption of saturated fat. The Nutrition Facts label on food and beverage packages shows the amount in grams (g) and the Percent Daily Value (%DV) of saturated fat in **one serving** of the food.

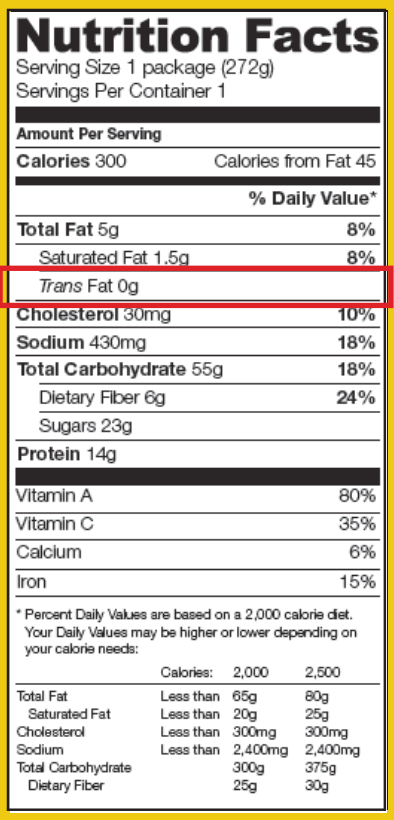
The Daily Value for saturated fat is **less than 20 g per day**. This is based on a 2,000 calorie diet — your Daily Value may be higher or lower depending on your calorie needs.

- ☐ Choose foods with a lower %DV of saturated fat. Aim for less than 100% of the Daily Value for saturated fat each day. And remember:
  - 5% DV or less of saturated fat per serving is low
  - 20% DV or more of saturated fat per serving is high
- ☐ Look for sources of saturated fat on ingredient lists. Some examples are: beef fat, butter, chicken fat, cream, pork fat, shortening, coconut oil, palm oil, and palm kernel oil.

Tip: Ingredients are listed in descending order by weight - the closer an ingredient is to the beginning of the list, the more of that ingredient is in the food.

- ☐ Choose lean cuts of meats and poultry. Before or after cooking, trim or drain fat from meats and remove poultry skin.
- ☐ Try seafood and plant proteins (beans, peas, soy products, unsalted nuts, and seeds) in place of some meats and poultry.
- ☐ Substitute fat-free (skim) milk, low-fat (1%) milk, or soy milk for whole milk.
- ☐ Switch from stick margarine to soft margarine (liquid, spray, or tub).
- ☐ Cook with canola and olive oils instead of butter, lard, and shortening.
- ☐ Try baking, broiling, grilling, or steaming. These cooking methods do not add extra fat.
- ☐ Instead of using creamy salad dressings, make your own flavorful dressing with vinegar and olive oil.
- ☐ Limit desserts (cakes, chips, chocolate candies, cookies, crackers, ice cream, and puddings).
- ☐ Consume less often and smaller portions of foods and beverages that are higher in saturated fat.
- ☐ When eating out, request to see nutrition information, and choose options that are lower in saturated fat.

Taking a Closer Look at Trans Fat



Nutrition Facts

Serving Size 1 package (272g)
Servings Per Container 1

Amount Per Serving	
Calories 300	Calories from Fat 45
	% Daily Value*
Total Fat 5g	**8%**
Saturated Fat 1.5g	**8%**
Trans Fat 0g	
Cholesterol 30mg	**10%**
Sodium 430mg	**18%**
Total Carbohydrate 55g	**18%**
Dietary Fiber 6g	**24%**
Sugars 23g	
Protein 14g	
Vitamin A	80%
Vitamin C	35%
Calcium	6%
Iron	15%

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Saturated Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Trans fat can increase the risk of developing heart disease.

***Trans* fat is a nutrient to get less of.**

What It Is

Trans fat is an unsaturated fat, but it is structurally different than unsaturated fat that occurs naturally in plant foods. Trans fat has detrimental health effects and is not essential in the diet.

Where It Is Found

Trans fat formed naturally is found in small amounts in some animal products, such as meats and dairy products.

Trans fat formed artificially during food processing is found in partially hydrogenated oils used in a variety of foods, including:

- Coffee creamer
- Fast food
- Frozen pizza
- Desserts (cakes, cookies, and frozen pies)
- Ready-to-use frostings
- Refrigerated dough products (biscuits and cinnamon rolls)
- Crackers and microwave popcorn
- Shortening and stick margarine

What It Does

Partially hydrogenated oils are used by food manufacturers to improve the texture, shelf life, and flavor stability of foods. Partially hydrogenated oils should not be confused with "fully hydrogenated oils," which are solid fats that contain very low levels of trans fat.

Health Facts

- About half of the *trans* fat we consume is from partially hydrogenated oils.
- *Trans* fat increases the level of "bad" cholesterol (LDL) and decreases the level of "good" cholesterol (HDL) in the blood. **This can increase the risk of developing heart disease**.
- The *Dietary Guidelines for Americans* recommends keeping the intake of trans fat **as low as possible** by limiting foods containing **partially hydrogenated oils**. Eating foods with even small amounts of trans fat can add up to a significant intake over time.

Action Steps

For Reducing Trans Fat in Your Diet

Use the **Nutrition Facts label** as your tool for reducing consumption of trans fat formed during food processing. The Nutrition Facts label on food and beverage packages shows the amount in grams (g) of trans fat in one serving of the food.

Trans fat has no Percent Daily Value (%DV), so use the amount of grams (g) as a guide.

- ☐ Look for partially hydrogenated oils on the ingredient list on a food package.
- ☐ Switch from stick margarine to soft margarine (liquid, spray, or tub).
- ☐ Cook with canola and olive oils instead of butter, lard, and shortening.
- ☐ Try baking, broiling, grilling, or steaming. These cooking methods do not add extra fat.
- ☐ Limit desserts and savory snacks (cakes, cookies, crackers, and microwave popcorn).
- ☐ Choose lean cuts of meats and skinless poultry.
- ☐ Substitute fat-free (skim) milk, low-fat (1%) milk, or soy milk for whole milk.
- ☐ When eating out, request to see nutrition information, and choose options that don't contain trans fat.

Make the Healthier Choice: Alternatives to Foods (Wóyute) that Contain Empty Calories

High in Empty Calories	Healthier Alternative
Sweetened apple sauce	Unsweetened apple sauce
Regular ground beef (75% lean)	Lean (80-85% lean) or extra lean ground beef (95% lean)
Banquet chicken or other fried chicken	Baked chicken breast without skin
Sugar-sweetened cereals (Froot Loops, Cinnamon Toast Crunch, etc.)	Unsweetened cereals (Cheerios, Raisin Bran, etc.)
Whole milk	Fat-free (skim) or low-fat (1%) milk
Sweetened yogurt	Plain (unsweetened) yogurt

Food Selection Tips From the CRST Diabetes Program

Know your portion size. It matters and is part of keeping track of your total carbs, fat, sodium, and calories.

Beverages

- Drink more water
- Drink unsweetened drinks
- Do not drink pop
- Alcohol - Limit your alcohol consumption or don't drink at all
  - No more than 2 drinks a day for men and 1 drink a day for women
  - Light beer has less carbohydrates than regular beer

Snacks

- Instead of chips for a snack, have pork rinds (they have fat and calories, but no carbohydrates)
- Beef jerky is an excellent option
- Popcorn is a healthy snack choice
- Instead of a full size candy bar, have a small piece of dark chocolate

Talk with a registered dietitian to help you plan a healthy diet and better manage your diabetes.

Additional Tips For Lowering Intake of Empty Calories

- Read the Nutrition Facts label on all foods and drinks. Remember that sugar can be called by many different names. When a sugar or solid fat is close to first on the ingredients list, the food is high in sugar or solid fat.
- Limit the amount of sugar or solid fats used when cooking, baking, and eating.
- Avoid eating dairy and grain-based desserts (such as cakes, cookies, ice cream, and puddings) and sweets (such as candies, jams, and syrups).
- Pay attention to portion size. Consume smaller portions of foods and beverages that are higher in sugars and solids fats, or consume them less often.
- When eating out, choose low sugar and low-fat options. Ask to see the Nutrition Facts label for menu options (available in many chain restaurants). Choose options that are lower in sugars and saturated fat.
- Eat regularly. Hunger can make you crave sugar, so eat small healthy meals and snacks every 3 hours. Foods that include protein and healthy fats, such as eggs, fish, lean meats, and nuts, make you feel full longer and won’t cause a spike in blood sugar.
- Curb your intake gradually. If you like sugar in your tea or coffee, slowly cut back the amount you use until you get accustomed to the less sweet taste. If you drink multiple cans of pop every day, replace with milk, sparkling water, or tap water over a few weeks.

Challenge Yourself!

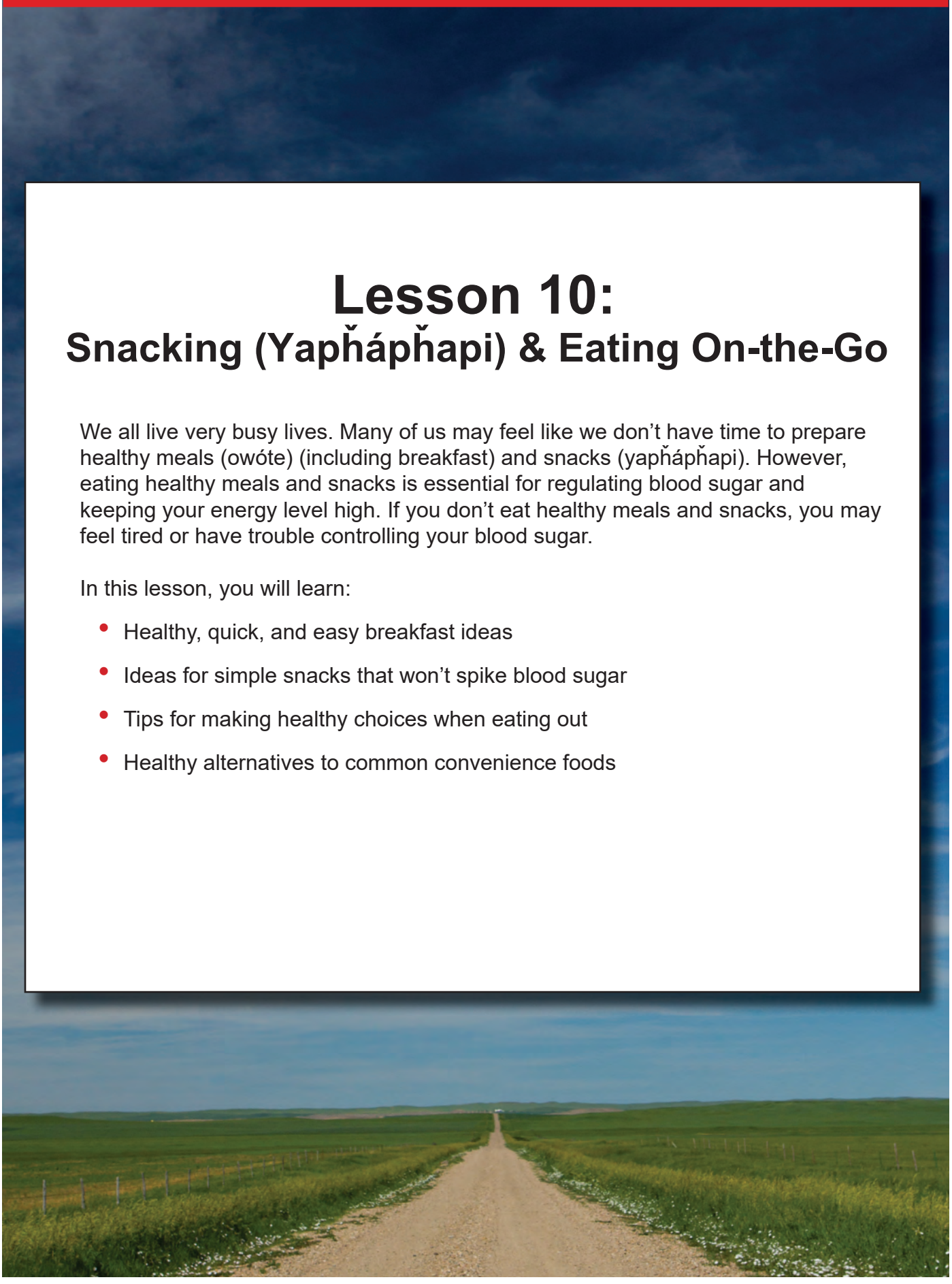
Set a Goal

Choose (kaȟníğa) one of the goals below (or set your own) to try during the next month:

- ❒ I will try some of the healthier alternatives to pop, sweet tea, fruit-flavored drinks, sports drinks, energy drinks, and alcohol.
- ❒ I will adjust a favorite recipe to use healthier fats or reduce use of solid fats.
- ❒ I will read Nutrition Facts labels on my favorite foods to determine if they are high in added sugars or solid fats.
- ❒ I will create one of the recipes from the cook book at home.
- ❒ I will:

_____

_____



Lesson 10:
Snacking (Yapȟápȟapi) & Eating On-the-Go

We all live very busy lives. Many of us may feel like we don't have time to prepare healthy meals (owóte) (including breakfast) and snacks (yapȟápȟapi). However, eating healthy meals and snacks is essential for regulating blood sugar and keeping your energy level high. If you don't eat healthy meals and snacks, you may feel tired or have trouble controlling your blood sugar.

In this lesson, you will learn:

- Healthy, quick, and easy breakfast ideas
- Ideas for simple snacks that won't spike blood sugar
- Tips for making healthy choices when eating out
- Healthy alternatives to common convenience foods

Breakfast is the Most Important Meal (Owóte) of the Day

You may have heard that breakfast is the most important meal of the day. This is especially true when you have diabetes. A healthy breakfast can help you control your blood sugar and maintain a healthy weight.

Choosing the right kinds of breakfast foods is important when you have diabetes. Many common breakfast foods are high in carbohydrates or sodium. Pancakes, waffles, French toast, and some popular cereals are high in carbohydrates. Breakfast sausages and bacon are high in sodium. Avoid these foods to optimize blood sugar levels.

Keep your pantry stocked with staple food items that can be used to create a healthy breakfast so that you can start your day out with a quick, nutritious meal that will keep you energized throughout the morning.

Stock Your Pantry[1]

Keep your kitchen stocked with a variety of fruits, vegetables, whole grains, protein, and dairy foods so that it's easy to prepare breakfast every day.

Fruits (Waskúyeča)

- **Fresh fruit:** apples, oranges, bananas, and pears make for an easy grab-and-go breakfast.
- **Frozen fruit** (look for brands with no sugar added): keep a bag or two in your freezer to use in smoothies or to mix with unsweetened yogurt.
- **Canned fruit** (look for brands canned in juice, not syrup): try pears, peaches, or fruit cocktail.
- **Dried fruit** (look for brands with no sugar added): raisins and dried cranberries are great in oatmeal or mixed with nuts.

Whole Grains (Pȟeží íŋkpa)

- **Quick oats:** a serving of quick oats can be ready to eat in less than 2 minutes by just adding boiling water.
- **100% whole wheat bread**.
- **Unsweetened whole grain or bran cereal**, such as Cheerios or Raisin Bran.

Nuts

- **Unsalted nuts:** try dry roasted walnuts, pecans, almonds, or peanuts.
- **Peanut butter and/or almond butter:** nut butters will keep you feeling full from the combination of protein and fat.

Eggs & Dairy

- **Eggs or egg substitute:** you can cook an egg (or egg substitute) in five minutes.
- **Unsweetened and non-fat yogurt (regular or Greek):** plain is best, flavored varieties have lots of added sugars.
- **Cottage cheese:** try nonfat or 1% or 2% milkfat cottage cheese to cut back on saturated fat.

Vegetables

- **Frozen peppers and onions:** you can add these to egg sandwiches or omelets.
- **Fresh tomatoes:** add tomatoes to egg sandwiches, omelets, or cottage cheese.

[1] Adapted from the American Diabetes Association "Quick Breakfast Ideas"

Breakfast Ideas that Suit All Morning Routines[1]

Time not an issue? Try:

- **English muffin breakfast sandwich**
- **Homemade healthy muffins** for a special treat
- **Breakfast tacos:** Scramble an egg. Serve eggs with salsa and low-fat cheese in corn tortillas.

Only have a few minutes? Try:

- **Whole grain or bran cereal:** Add ½ cup of skim or 1% milk. Top with some fruit if it will fit with your meal plan.
- **Oatmeal:** Mix ¼ cup of quick oats with ½ cup water and cook in the microwave for about 1 minute or until oats are cooked. Stir in 1 teaspoon Splenda Brown Sugar Blend, some cinnamon, and a small handful of dry roasted nuts. Add fresh or dried fruit if it will fit with your meal plan.
- **Yogurt parfait:**
- **Cottage cheese & fruit:** Portion out ½ cup of cottage cheese and mix in ½ cup canned peaches. If you don't like peaches, try another fruit, like pineapple, raspberries, blueberries or tomatoes.
- **100% whole wheat bread with nut butter:** Toast bread and top with 1-2 Tablespoons of natural peanut butter or almond butter. You could also top with some apple or banana slices if it will fit with your meal plan.
- **One-minute scrambled eggs:** In a microwave-safe bowl, crack an egg and whisk with 1 Tablespoon of skim or 1% milk. Sprinkle in garlic powder and ground pepper if desired. Cook mixture in microwave for about 45-60 seconds or until eggs are cooked through.
  - **Option 1:** If desired, top with 1 Tablespoon of salsa and sprinkle with a Tablespoon of reduced-fat cheese. Have with a slice of whole grain toast and/or a small piece of fruit.
  - **Option 2:** If desired, wrap the egg in a whole wheat tortilla with some sliced bell peppers and tomatoes. Top with a dash of hot sauce, wrap in foil and bring with you on-the-go.

If your mornings are hectic, get organized the night before:

- **Prep for breakfast the night before.** Set the table with bowls and spoons for cereal. Take out a pan for eggs. Chop up fruit to layer in a yogurt parfait or add to oatmeal or cereal. Cut up vegetables for an omelet.
- **Grab-and-go breakfasts:** Grab a banana, a bag of trail mix made with whole-grain cereal, nuts, and dried fruit, or a premade peanut butter sandwich.
- **Breakfast doesn’t have to mean traditional breakfast foods.** If you want a change from cereal and eggs, think about serving leftovers from last night’s dinner.

Choose Healthy Snacks to Regulate Blood Sugar

Many common snack foods are high in sodium and added sugars. Choosing healthy snacks high in protein, fiber, and healthy fats can help you regulate blood sugar and keep your energy level high.

Here are some ideas for simple healthy snacks:

- Hard-boiled eggs
- Handful of nuts (for example, almonds, peanuts, walnuts)
- Pork Rinds
- Popcorn (pop at home on stove or using air popper); many store-bought brands contain sodium and trans fat)
- Edamame (soybeans in pod; often found in freezer section of grocery stores)

You can also combine food groups for satisfying snacks:

- Sliced apple with peanut butter
- Whole-grain crackers with turkey or cheese
- Unsweetened yogurt with fresh or frozen berries
- Sliced veggies (for example, carrots and celery) with hummus
- Cottage cheese with canned or fresh peaches (choose cans with no added sugar)

Snack Smart

Instead of buttered popcorn...

Popcorn Sprinkles

- For the following recipes, start with 10 cups of popped popcorn. Mix the flavorings together and sprinkle on popcorn. For corn popped in oil, the sprinkles will stick. If you choose a healthier version of air-popped popcorn, spray on a fat-free butter spray before adding the sprinkles.

Popcorn Flavor	Toppings
Sour Cream and Onion	• 2 Tablespoons buttermilk powder • 2 teaspoons onion salt
Cinnamon and Sugar	• 2 teaspoons cinnamon • 1 Tablespoon sugar
Mexican	• 2 teaspoons Mexican Seasoning
Italian	• See cook book
Herb Ranch	• 2 teaspoons Herb Ranch Seasoning
Spicy	• 1 teaspoon chili powder • ½ teaspoon garlic powder

Remember:
Popcorn can cause choking in children under 3 years of age.

Instead of pre-made seasonings...

Herb Ranch Seasoning

- ¼ cup parsley leaf
- 2 Tablespoons dried dill leaf or basil leaf, crumbled
- 2 Tablespoons garlic powder
- 2 Tablespoons onion powder
- 1 teaspoon ground black pepper

1. Combine in small bowl, jar or plastic bag and blend well. Store in a tightly sealed container. Label and date. Keep in a cool, dry place for up to 6 months. Sprinkle on raw or cooked poultry and fish, on raw vegetables before roasting or baking, or use as a salt substitute.
2. To make Ranch dip, mix 1 teaspoon with ½ cup low-fat mayonnaise, low-fat sour cream or low-fat plain yogurt (or a combination). To make salad dressing, make the dip and add low-fat milk or buttermilk to desired consistency.

Mexican Seasoning

- 2 Tablespoons chili powder
- 2 Tablespoons paprika
- 1 Tablespoon garlic powder
- 2 teaspoons ground cumin
- 1 teaspoon oregano
- 1 teaspoon cayenne pepper or crushed red pepper flakes (optional)
- ½ teaspoon salt (optional)

1. Combine in small bowl, jar or plastic bag and mix well. Store in a tightly sealed container. Label and date. Keep in a cool, dry place for up to 6 months. Use 1 Tablespoon to flavor 1 pound of ground meat. Try in tacos, burritos, fajitas, popcorn, or dips or sprinkle on grilled or roasted vegetables.

Snack Smart - Continued

Instead of potato chips...

Mixed Dried-Cereal Snack

- 2 Tablespoons canola oil
- 2½ cups assorted unsweetened ready-to-eat whole-grain cereals
- ½ to 1 cup assorted nuts
- ¼ teaspoon onion powder
- ⅛ teaspoon garlic powder
- 1¼ teaspoons chili powder
- 1 teaspoon paprika

1. Add oil to bottom of large baking pan.
2. Pour in cereal and nuts. Stir well, so pieces are coated.
3. Sprinkle on seasonings; stir well again. Spread evenly in pan.
4. Bake uncovered at 250°F for 20 to 30 minutes or until cereal begins to brown.
5. Serve warm or cooled.
6. Store cooled mixture in tightly closed container.
7. To re-crisp, heat in oven at 250°F for a few minutes.

Variation:

- Less Spice- For a less spicy snack, decrease chili powder and paprika each to ½ teaspoon.

Nutrition Facts

Serving Size 1/2 cup (34.07g)
Servings Per Container 6

Amount Per Serving	
Calories 180	Calories from Fat 100
	% Daily Value*
Total Fat 11g	**17%**
Saturated Fat 1.5g	**8%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 130mg	**5%**
Total Carbohydrate 16g	**5%**
Dietary Fiber 3g	**12%**
Sugars 3g	
Protein 4g	**8%**

*Percent Daily Values are based on a 2,000 calorie diet.

Snack Smart - Continued

Instead of cheesy crackers ...

Make Fruit and Cheese Kabobs

- Cut block cheese into small cubes.
- Wash, peel, and cut a variety of colorful fruits into bite-sized pieces.
- Slide food onto coffee stirrer "skewers" or whole wheat pretzel sticks. Switch between fruit and cheese pieces.

Make Cucumber Sammies

- Cut cucumbers into thin slices.
- Top half of the slices with small pieces of turkey and cheese.
- Cover each one with another cucumber slice.

Instead of potato chips or salty snacks ...

Trail Mix

Instead of ice cream ...

Yogurt Parfaits

Instead of frozen fruit snacks ...

Make Frozen Fruit Poppers

- Wash and peel a variety of colorful fruits.
- Cut fruits into bite-sized pieces. Place in a freezer-safe plastic bag.
- Let freeze in the freezer. Pull out and enjoy!

Make Fruit Pops

- In a blender, combine fresh or frozen fruit pieces, water, and a small amount of honey or sugar. Blend together.
- Pour mixture evenly into empty ice cube trays.
- Freeze until slushy, about 45 minutes. Stick a popsicle stick or toothpick into each cube. Freeze for 1 hour.

Challenge Yourself!

Read the Nutrition Facts labels for the following food items and answer the questions.

Nutrition Facts

Serving Size 1/3 cups (28g)
Servings Per Container 4

Amount Per Serving	
Calories 130	Calories from Fat 40
	% Daily Value*
Total Fat 4.5g	**7%**
Saturated Fat 0.5g	**3%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 200mg	**8%**
Total Carbohydrate 20g	**7%**
Dietary Fiber 1g	**4%**
Sugars 0g	
Protein 2g	**4%**

*Percent Daily Values are based on a 2,000 calorie diet.

1. What is a serving size? _____ **cup**

2. How many servings are in the container? _____**servings**

3. What % Daily Value of sodium would you eat if you ate the whole bag?

   _____servings per container times _____% Daily Value per serving

   =_____ **% Daily Value per container**

4. What % Daily Value of saturated fat would you eat if you ate the whole bag?

   _____servings per container times _____% Daily Value per serving

   =_____ **% Daily Value per container**

5. Corn Nuts are not a healthy snack. They are high in sodium. What are some ideas for a healthier alternative to Corn Nuts?

   _____

Answers: (1) 1/3 cup (2) 4 (3) 32% (4)12% (5) examples of healthier options include: peanuts, almonds, or other nuts, air-popped popcorn

Nutrition Facts

Serving Size 11 chips (28g)
Servings Per Container 3

Amount Per Serving	
Calories 150	Calories from Fat 70
	% Daily Value*
Total Fat 8g	**12%**
Saturated Fat 1.5g	**8%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 210mg	**9%**
Total Carbohydrate 17g	**6%**
Dietary Fiber 1g	**4%**
Sugars 1g	
Protein 2g	**4%**

*Percent Daily Values are based on a 2,000 calorie diet.

1. What is a serving size? _____

2. How many servings are in the container? _____**servings**

3. What % Daily Value of sodium would you eat if you ate the whole bag?

   _____servings per container times _____% Daily Value per serving

   =_____ **% Daily Value per container**

4. What % Daily Value of saturated fat would you eat if you ate the whole bag?

   _____servings per container times _____% Daily Value per serving

   =_____ **% Daily Value per container**

5. Doritos are not a healthy snack. They are high in sodium. What are some ideas for a healthier alternative to Doritos?

   _____

Answers: (1) 11 chips (2) 3 (3) 27% (4) 24% (5) examples of healthier options include: pork rinds, cheese and whole-grain crackers, or nuts

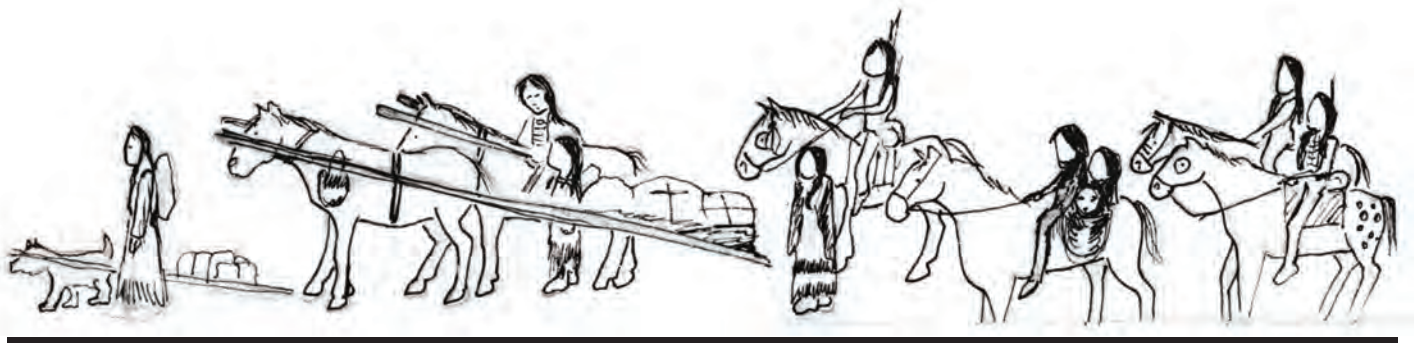
Snacks (Yapȟápȟapi) Should Not Replace Meals (Owóte)—Pay Attention to Portion Size

Follow these tips to make healthy snacking easy:

- **Eat small amounts of food every 3-4 hours.** Waiting a long time between meals without snacking can cause blood sugar to drop, and may cause you to overeat.
- **Drink lots of water.** It is easy to confuse thirst and hunger. Stay hydrated. Keep a water bottle with you and drink throughout the day.
- **Portion out snack foods.** Use measuring cups to portion snack foods into baggies or containers when you get home from the store so they're ready to grab-and-go when you need them.
- **Plate your snacks.** Avoid eating snack food directly from the bag or box that it came in. Plate a single portion to avoid over-eating.
- **Keep healthier food handy.** This will help you avoid filling up on cookies, pastries, or candies between meals.

Eating On-the-Go

Many of us eat fast food or convenience food when we are busy. However, many types of fast food and convenience food are high in sodium, saturated fat, and carbohydrates. Eating these foods regularly may cause weight gain and high blood sugar.



Challenge Yourself!

Read the Nutrition Facts labels for popular fast food items and answer the questions below.

Dairy Queen 1/2 lb Cheese Grillburger™

Nutrition Facts
Serving Size 1 grillburger
Servings Per Container 1

Amount Per Serving	
Calories 800	Calories from Fat 440
	% Daily Value*
Total Fat 49g	**75%**
Saturated Fat 21g	**105%**
Trans Fat 2g	
Cholesterol 165mg	**55%**
Sodium 1110mg	**46%**
Total Carbohydrate 42g	**14%**
Dietary Fiber 2g	**8%**
Sugars 12g	
Protein 47g	**94%**

*Percent Daily Values are based on a 2,000 calorie diet.

List which nutrients have high % Daily Value (more than 20% Daily Value per serving)?

_____

Potato Olés®

Nutrition Facts
Serving Size 1 medium serving (198g)
Servings Per Container 1

Amount Per Serving	
Calories 670	Calories from Fat 350
	% Daily Value*
Total Fat 38g	**58%**
Saturated Fat 8g	**40%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 1930mg	**80%**
Total Carbohydrate 73g	**24%**
Dietary Fiber 8g	**32%**
Sugars 1g	
Protein 7g	**14%**

*Percent Daily Values are based on a 2,000 calorie diet.

List which nutrients have high % Daily Value (more than 20% Daily Value per serving)?

_____

Answer: Burger: total fat, saturated fat, cholesterol, sodium, protein; Potatoes: total fat, saturated fat, sodium, carbohydrate, dietary fiber

Eating Foods Away From Home

Use these 10 Tips to Make Healthy Food (Wóyute) Choices When Eating On-the-Go

Full-service and fast-food restaurants, convenience stores, and grocery stores offer a variety of meal options. Typically, these meals are higher in calories, saturated fat, sodium, and added sugars than the food you prepare at home. Think about ways to make healthier choices when eating food away from home.

1 Consider your drink

Choose water, unsweetened tea, and other drinks without added sugars to complement your meal. If you drink alcohol, choose drinks lower in added sugars and be aware of the alcohol content of your beverage. Keep in mind that many coffee drinks may be high in saturated fat and added sugar.

2 Savor a salad

Start your meal with a salad packed with vegetables to help you feel satisfied sooner. Ask for dressing on the side and use a small amount of it.

3 Share a dish

Share a dish with a friend or family member. Or, ask the server to pack up half of your entree before it comes to the table to control the amount you eat.

4 Customize your meal

Order a side dish or an appetizer-sized portion instead of a regular entree. They're usually served on smaller plates and in smaller amounts.

5 Pack your snack

Pack fruit, sliced vegetables, low-fat string cheese, or unsalted nuts to eat during road trips or long commutes. No need to stop for other food when these snacks are ready-to-eat.

6 Fill your plate with vegetables and fruit

Stir-fries, kabobs, or vegetarian menu items usually have more vegetables. Select fruits as a side dish or dessert.

7 Compare the calories, fat, and sodium

Many menus now include nutrition information. Look for items that are lower in calories, saturated fat, and sodium. Check with your server if you don't see them on the menu. For more information, check www.FDA.gov.

8 Pass on the buffet

Have an item from the menu and avoid the "all-you-can-eat" buffet. Steamed, grilled, or broiled dishes have fewer calories than foods that are fried in oil or cooked in butter.

9 Get your whole grains

Request 100% whole-wheat breads, rolls, and pasta when choosing sandwiches, burgers, or main dishes.

10 Quit the "clean your plate club"

You don't have to eat everything on your plate. Take leftovers home and refrigerate within 2 hours. Leftovers in the refrigerator are safe to eat for about 3 to 4 days.

Cook It Up Quick

Short on time? Use these ideas to save time on busy weeknights.

Stay Organized

- Organize your kitchen. Know where to find the ingredients and cooking tools you need.
- Read the recipe all the way through at least twice. Make sure you have all the ingredients and supplies you will need.
- Prep all ingredients — such as rinsing and chopping all of the vegetables —before you start cooking. Everything should be ready to use as soon as the recipe calls for it. If you can, prep some ingredients the night before.

Use the Freezer

- Cut up large amounts of onions, carrots, celery, and peppers. Freeze in large, zip-top plastic bags. Use as needed.
- Double the recipe and freeze the extra portion. Serve it later in the month when you don't have time to cook.

Make Cleanup Easy

- Wipe up spills as they happen.
- Line baking sheets with aluminum foil. Then use it to cover leftovers.
- Presoak pots, pans, and dishes as soon as they are used.
- Clean as you cook. Don't save it all for the end.
- Use plastic dishes for easier cleanup and fewer accidents with kids.
- Organize a family cleanup team. Sing while you're working together.

Other ideas to save time?

_____

_____

_____

_____

Packaged Food Makeover

Love the convenience of packaged foods? Try these tips for making them healthier — or making them yourself!

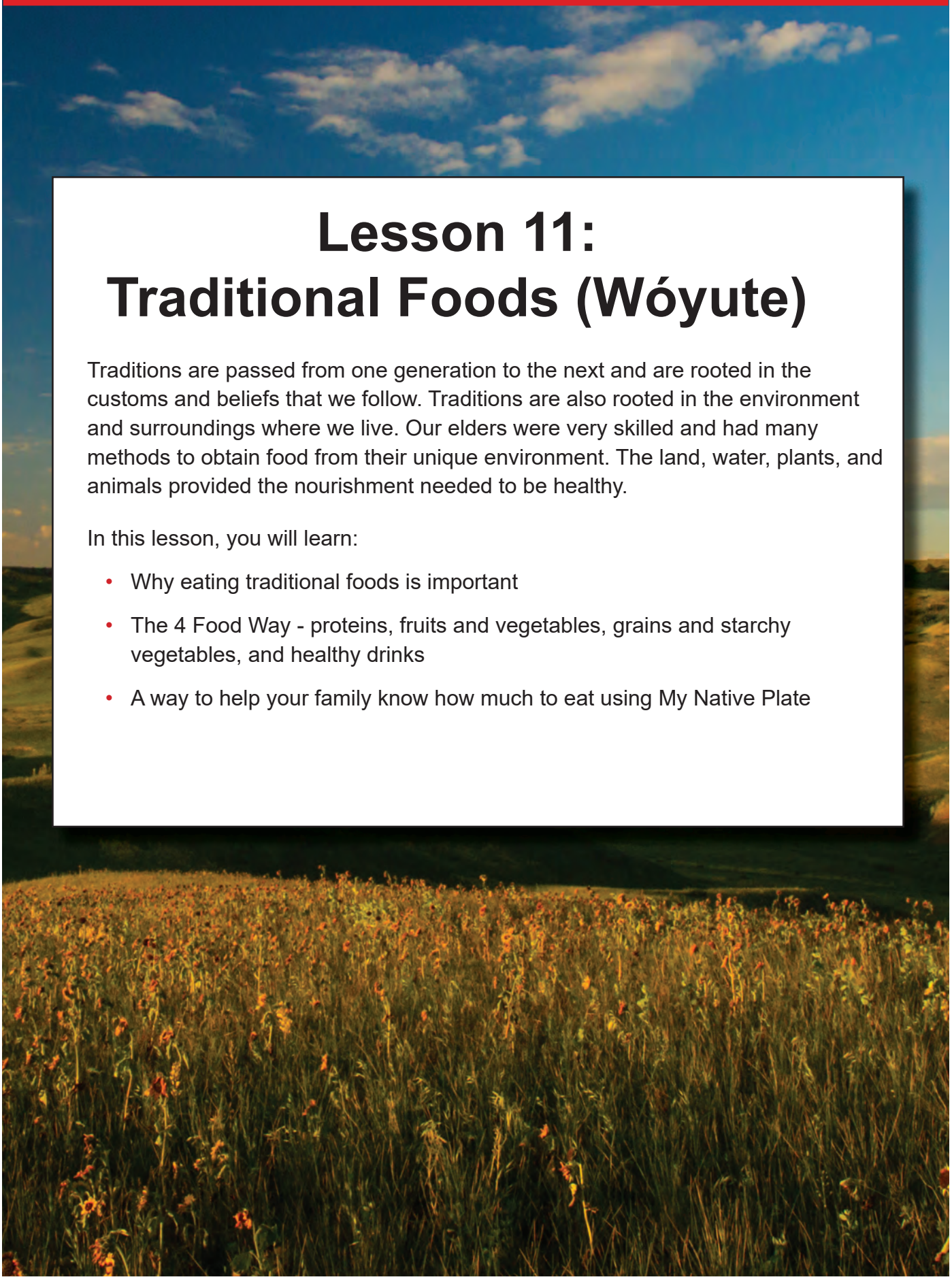
Packaged Food	Make it Healthier	Make it Yourself
Ramen noodles	• Look for brands that bake the noodles instead of frying them. • Stir in fresh or frozen veggies. Try broccoli, peas, edamame (soy beans), or spinach. • Add protein if you like. Try leftover cooked chicken, fish, or beef. Or, add cubes of tofu. • Use only half of the seasoning packet.	Cook whole grain angel hair pasta and your favorite chopped veggies in low-sodium broth until tender. Add leftover cooked chicken, fish, or beef, cubed tofu, or thawed edamame. Cook until heated through. Season with low-sodium soy sauce.
"Just add meat" boxed meals	• Use lean ground beef, chicken, or turkey. • Drain fat from cooked meat. • Add whatever veggies you have on hand. Try broccoli, carrots, or spinach.	Try Hamburger Casserole
Boxed macaroni and cheese	• Add fresh or frozen broccoli or spinach to the pasta during the last few minutes of cooking.	Homemade mac and cheese is easier to make than you may think! See cook book for our stovetop version.
Frozen Pizza	• Buy a plain cheese pizza. Add your own toppings. • Top with your favorite cooked veggies. Try broccoli, peppers, onions, and olives. • If you want meat, add low-fat turkey pepperoni. Or, use cooked chicken or turkey sausage. • Look for whole grain crusts if you can find them. If not, look for thin crusts.	Making your own pizza is fun for the whole family. Try Pizza in the cook book. If you have time, make your own whole grain crust!

Challenge Yourself!

Set a Goal

Choose (kaȟníğa) one of the goals below (or set your own) to try during the next month:

- ❒ I will choose a healthy option the next time I eat at a restaurant or get take-out food.
- ❒ I will prepare a healthy homemade snack this month.
- ❒ I will eat a balanced breakfast three or more days this month.
- ❒ I will create one of the recipes from the cook book at home.
- ❒ I will: _____
  _____



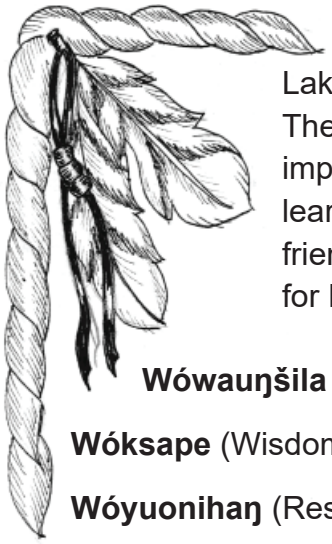
Lesson 11: Traditional Foods (Wóyute)

Traditions are passed from one generation to the next and are rooted in the customs and beliefs that we follow. Traditions are also rooted in the environment and surroundings where we live. Our elders were very skilled and had many methods to obtain food from their unique environment. The land, water, plants, and animals provided the nourishment needed to be healthy.

In this lesson, you will learn:

- Why eating traditional foods is important
- The 4 Food Way - proteins, fruits and vegetables, grains and starchy vegetables, and healthy drinks
- A way to help your family know how much to eat using My Native Plate

Lakota Values
For Wičhózaŋni Étkiya Lol'íwaȟ'aŋ (Cooking for Health)



Lakota Values are essential to balance, happiness, and everyday life. They are also linked to our overall health and well-being, choices we make, importance of eating healthy foods and portion sizes, diabetes management, learning about healthy foods, and promoting health and wellness to family, friends and others. Below are the Lakota Values as they relate to the Cooking for Health project.

Wówauŋšila (Compassion) for my family and friends to stay healthy

Wóksape (Wisdom) to make healthier choices to live a long and prosperous life

Wóyuonihaŋ (Respect) our bodies and the gift of food by eating healthy

Wóuŋšiičiye (Humility) to recognize the importance of my health and better manage my diabetes through good nutrition

Wówačhaŋtognake (Generosity) to promote wellness for my family, friends, and others

Wóohitike (Courage) to educate the truth about the dangers of diabetes and eating unhealthy foods

Wówačhiŋthaŋka (Patience) for me and my family to make healthy food choices

Why Eating Traditional Foods (Wóyute) is Important

The foods that we eat and nourish our bodies with have changed over time. Many foods that we purchase and eat today contain food additives or preservatives, such as sodium, fats, sugars, and food dyes, etc. Food additives can be easily recognized on the food ingredient list because they are usually the long unfamiliar names. The purpose of food additives is to keep foods from spoiling, give flavor, keep foods fresh longer, and to make foods look nice and appealing.

Food and water are essential to keep our bodies healthy and heal us when we are sick. Traditional foods serve this basic need. Traditional foods do not have food additives or preservatives. They are low in sodium (salt), fat, and sugar.

Would your ancestors recognize the foods you eat today?
Reclaim sovereignty over your food by choosing healthier traditional options.

Choose these alternatives:

- Wild Turnips (tinpsila)
- Wild Rice
- Chokecherries
- Wild Strawberries
- Dried Corn
- Buffalo (tȟatȟáŋka)
- Deer (tȟáȟča)
- Fish
- Mint Tea
- Chokecherry Juice

Source: Great Plains Tribal Chairmen's Health Board Good Health & Wellness Program

The 4 Food Way

The 4 Food Way uses the Medicine Wheel and reflects a traditional diet.

The traditional diet eaten by our ancestors consisted of meat sources (mostly buffalo) and was rounded out with vegetables, fruits, and other plant foods.

Protein	Fruits & Vegetables	Grains & Starchy Vegetables	Healthy Drinks
Traditional:	**Traditional:**	**Traditional:**	**Traditional:**
Buffalo	Chokecherries	Wild Turnips	Water
Elk	Wild Onion	Wild Potatoes	Mint Tea
Deer	Dried Corn	Wild Rice	Chokecherry Juice
Antelope	Buffalo Berries	Beans	**Non-Traditional Alternatives:**
Non-Traditional Alternatives:	Wild Strawberries	**Non-Traditional Alternatives:**	Lemon Water
Turkey	Wild Raspberries	Brown Rice	Lime Water
Chicken	Blueberries	Potatoes	Water Flavored with Natural Fruit Slices
Fish	Cranberries		Tea (no sweetener)
	Non-Traditional Alternatives:		Coffee (no sweetener)
	Carrots		
	Peas		
	Green Beans		
	Corn		

- Tatanka - the most important food source for the Lakota was the buffalo Buffalo meat has less fat than beef. If overcooked, it can get very tough and hard to eat.
- Canpa Sapa – the Lakota name for chokecherries. Chokecherries were often dried for use in the winter months.
- Tinpsila – the Lakota name for the prairie turnip. The prairie turnip was gathered and dried for use in the winter months.
- Mni – Water is the first medicine of the Lakota. Water sustains life. Remember to drink plenty of water.

Source: Great Plains Tribal Chairmen's Health Board – Good Health and Wellness Program who adapted The 4 Food Way from a concept developed by Kibbe Conti, Registered Dietitian, I.H.S.

My Native Plate

Eating healthy is a key component to managing diabetes. Choose fruits, vegetables, whole grains, lean proteins, and low-fat dairy foods at every meal, and try to drink and eat less sodium, saturated fat, and added sugars. My Native Plate is a different way to look at My Plate which has been covered in previous lessons. Both are tools to help you know how much to eat.

The My Native Plate diagram shows what a typical healthy plate should look like. Each section of the plate shows how much food from each food group should be eaten every day. Before you eat, think about how your plate compares to the My Native Plate guidelines.

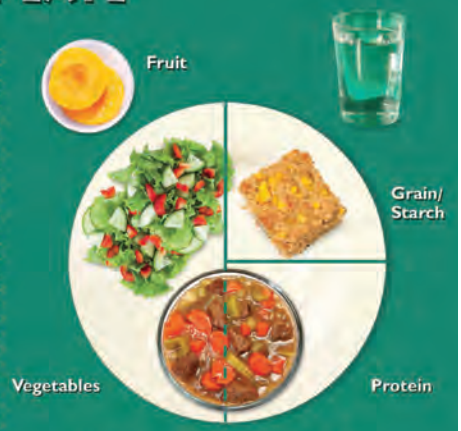
Remember these 3 steps:

1. Use a 9 inch plate or 9 inch area of a larger plate.
2. Fill ½ plate with vegetables, ¼ plate grains/starch, ¼ plate protein, and add a side of fruit.
3. Stack food no higher than 1 to 1 ½ inches.

More Ideas for MY NATIVE PLATE

Pictured here: Yogurt with strawberries, salsa, scrambled eggs with zucchini, tortilla, coffee

Pictured here: Apple, carrots, celery, lettuce, tomato, onion, pickle, beef patty, bun, unsweetened tea



Pictured here: Peaches, salad, beef and vegetable stew, cornbread, water

Ways to Add Variety to Meals and Snacks

Vegetables and Fruits

Tips

- Stock up on fresh, frozen, and canned vegetables and fruits.
- Keep fruits and vegetables on hand for snacking.
- Plan some meals around a vegetable main dish, such as a stir fry, stew, or soup.
- Enjoy fruit as a dessert.

Examples

Vegetables: Wild greens, tomatoes, carrots, leafy greens, zucchini, avocados, broccoli, green beans, cucumbers, onions, peppers, okra

Fruits: Berries, melons, apricots, peaches, citrus fruits, bananas, apples, pears

Proteins

Tips

- Choose fish, beans, lentils, eggs, and nuts more often to cut down on meat.
- Instead of a beef patty for your burger, try a veggie, black bean, turkey, soy, or bison patty.
- Grill, stew, or bake meat instead of deep frying.
- If milk upsets your stomach, try yogurt, lactose free milk, or soy milk.

Examples

Animal proteins: Fish, wild game, bison, poultry, mutton, beef, pork, eggs

Plant proteins: Beans, lentils, nuts, nut butters, seeds, tofu, soy products

Dairy proteins: Milk, lactose free milk, yogurt, cheese, cottage cheese

Grains and Starches

Tips

- Choose whole grain foods, such as whole wheat breads, corn tortillas, oatmeal, and wild or brown rice.
- Try whole wheat flour instead of white flour.
- Add wild or brown rice to main dishes, such as a stir fry, stew, or soup.
- Bake or roast potatoes instead of deep frying.

Examples

Grains: Pastas, breads, crackers, rice, oats, quinoa, barley, cereals, tortillas, flour, cornmeal

Starchy vegetables: Potatoes, corn, green peas, winter squash

Produced by the IHS Division of Diabetes Treatment and Prevention
For more information and materials, visit www.ihs.gov/diabetes
07/2016

Tip to add calcium and vitamins:

- Add a glass of low-fat milk
- Add a slice of cheese
- Top fruit with low-fat yogurt

Why Others Feel Eating Traditional Foods (Wóyute) is Important…

"The buffalo and other keystone species of the prairie provided the exact micronutrients that we needed to be healthy. Contemporary foods like we buy at the grocery store...easy foods, like pizza, lasagna, Banquet chicken and etc. are not as healthy and filled with preservatives."

"Buffalo (tȟatȟáŋka) is lower in cholesterol than beef and what our bodies were used to before other foods came along. Our bodies were used to a lean diet versus the higher fat diet and processed foods that are eaten today. The processed foods diet is the root cause of our modern ailments."

"Growing, preparing and eating traditional foods brings so much pride to an individual. It helps you to connect with our ancestors and culture."

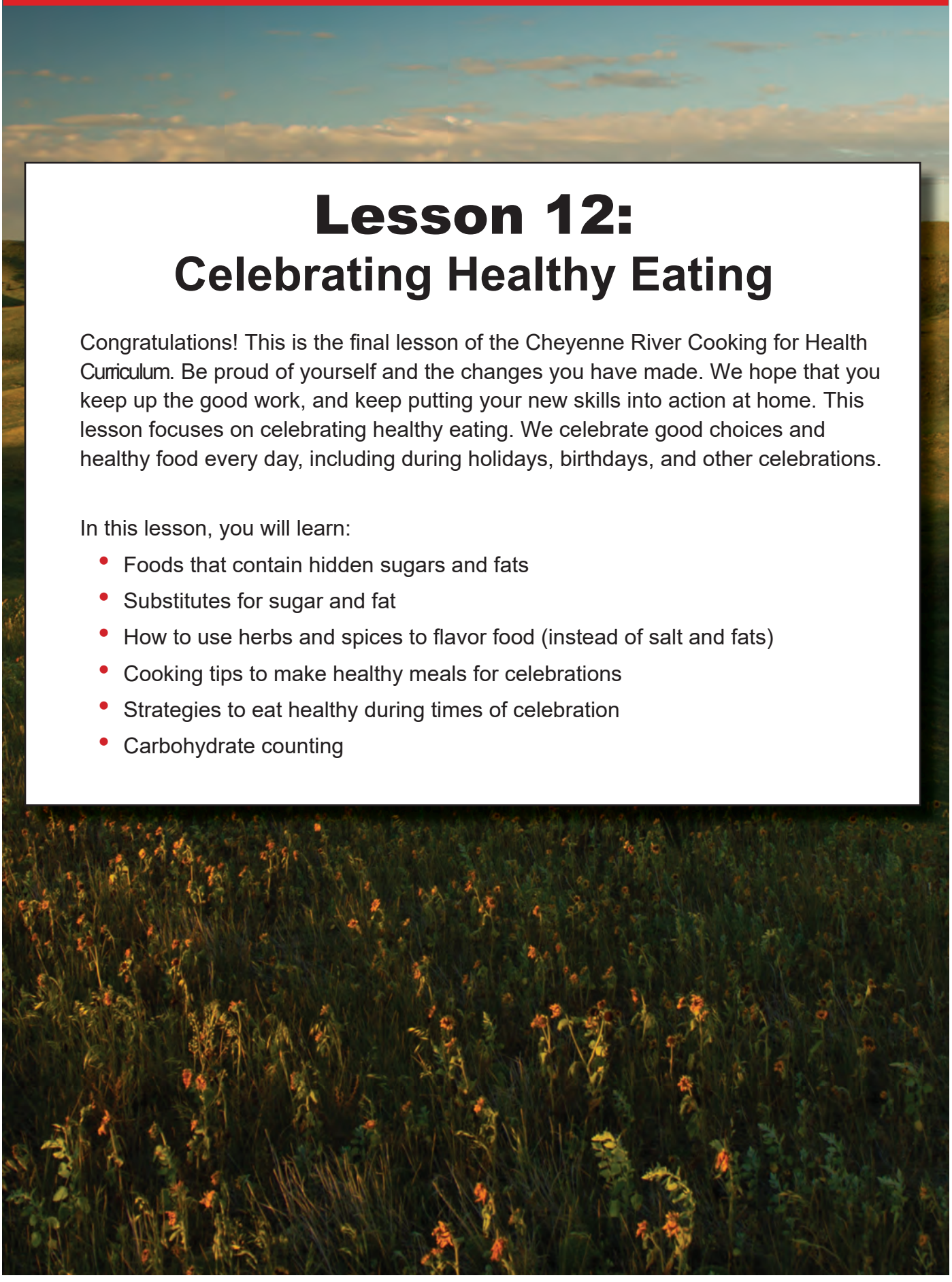
Challenge Yourself!

Set a Goal

Choose (kaȟníǧa) one of the goals below (or set your own) to try during the next month:

- ❒ I will talk to elders to learn more about traditional foods.
- ❒ I will eat meals using a 9 inch plate and will not stack foods higher than 1-1½ inches.
- ❒ I will make a plan of where and how to gather local fruits, berries, turnips, or mint when in season.
- ❒ I will make a recipe from this lesson.
- ❒ I will: _____

  _____



Lesson 12:
Celebrating Healthy Eating

Congratulations! This is the final lesson of the Cheyenne River Cooking for Health Curriculum. Be proud of yourself and the changes you have made. We hope that you keep up the good work, and keep putting your new skills into action at home. This lesson focuses on celebrating healthy eating. We celebrate good choices and healthy food every day, including during holidays, birthdays, and other celebrations.

In this lesson, you will learn:

- Foods that contain hidden sugars and fats
- Substitutes for sugar and fat
- How to use herbs and spices to flavor food (instead of salt and fats)
- Cooking tips to make healthy meals for celebrations
- Strategies to eat healthy during times of celebration
- Carbohydrate counting

Holidays and celebrations are a special time to share meals with family and friends. Many foods commonly eaten during celebrations are high in sugar and unhealthy (saturated) fats. As you learned in lesson 9, these sources of "empty calories" are not good for your health. The following tables show the sugar and saturated fat content of many commonly consumed foods.

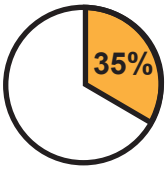
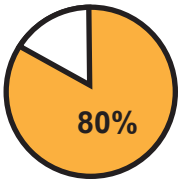
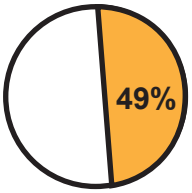
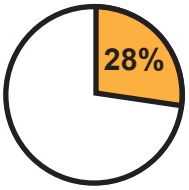
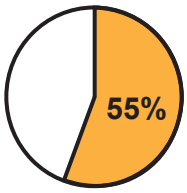
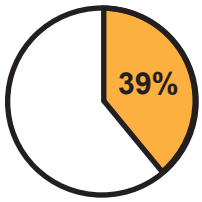
Hidden Sugars in Commonly Consumed Foods/Drinks

Food/Drink	Teaspoons of Sugar*	Calories
Pop: 12 oz. can 	 **10 teaspoons sugar**	**150**
Kool-Aid ®: 12 oz. glass 	 **9 teaspoons sugar**	**150**
Hawaiian Punch®: 12 oz. glass 	 **11 teaspoons sugar**	**180**
Orange Tang®: 12 oz. glass 	 **11 teaspoons sugar**	**175**
Jello® Dessert: ½ cup 	 **6 teaspoons sugar**	**80**
Canned Fruit in Heavy Syrup: 1 cup 	 **7 teaspoons sugar**	**85**
Cool Whip®: 4 tablespoons 	 **1 teaspoon sugar**	**44**

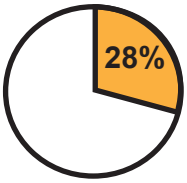
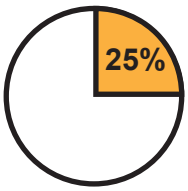
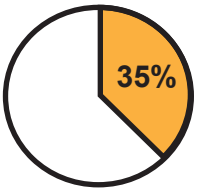
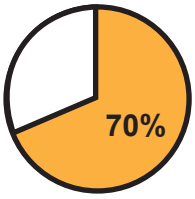
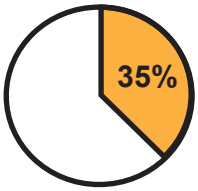
 **= 1 teaspoon sugar**

Adapted from: Winnebago/Omaha Diabetes Project document produced by IHS. Division of Diabetes Treatment and Prevention, 1/2012.

Hidden Saturated Fat in Commonly Consumed Foods

Food	% Daily Value of Saturated Fat	Calories from Saturated Fat*	Total Calories
Potato Chips: ½ family size bag (5 oz.) 	 35% Daily Value for saturated fat	70	800
Cheddar/Commodity Cheese: 3 slices (3 oz) 	 80% Daily Value for saturated fat	160	330
Stove Top Stuffing® (with butter): 1 cup 	 49% Daily Value for saturated fat	98	356
Bacon: 4 slices 	 28% Daily Value for saturated fat	56	200
Hot dogs: 2 dogs 	 55% Daily Value for saturated fat	110	300
Bologna: 3 slices 	 39% Daily Value for saturated fat	78	225

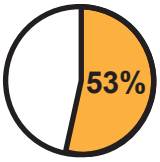
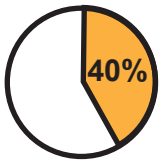
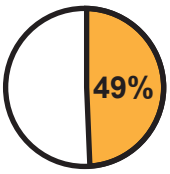
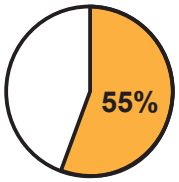
*For individuals who eat about 2,000 calories per day, <200 calories should come from saturated fat

Food	% Daily Value of Saturated Fat	Calories from Saturated Fat*	Total Calories
Broasted Chicken (1 breast & 1 leg) 	 28% Daily Value for saturated fat	56	520
Banquet Original Crispy Fried Chicken: 1piece 	 25% Daily Value for saturated fat	50	330
Fry Bread: 1 piece 	 35% Daily Value for saturated fat	70	400
Pepperoni & Cheese Pizza: 3 slices 	 105% Daily Value for saturated fat	289	1,020
Pepperoni & Cheese Pizza: 2 slices 	 70% Daily Value for saturated fat	128	680
Pepperoni & Cheese Pizza: 1 slice 	 35% Daily Value for saturated fat	63	340

*For individuals who eat about 2,000 calories per day, <200 calories should come from saturated fat

Adapted from: Winnebago/Omaha Diabetes Project document produced by IHS. Division of Diabetes Treatment and Prevention, 1/2012.

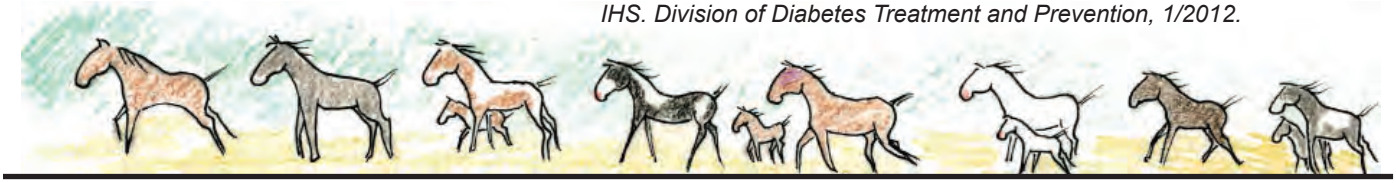
Hidden Sugars & Fat in Commonly Consumed Foods

Food	Teaspoons of Sugar*	% Daily Value of Saturated Fat*	Total Calories
Mrs. Smith's Pie®: Very Berry (1 slice, 1⁄6 pie) 	5 ¾ teaspoons sugar	 53% Daily Value for saturated fat	454
Mrs. Smith's Pie®: Pumpkin (1 slice, 1⁄6 pie) 	7 ¾ teaspoons sugar	 40% Daily Value for saturated fat	401
Vanilla ice cream: 1 cup 	7 ½ teaspoons sugar	 49% Daily Value for saturated fat	274
Frosted strawberry Pop Tarts® : 2 tarts 	8 ½ teaspoons sugar	 15% Daily Value for saturated fat	400
Frosted Roll 	5 ½ teaspoons sugar	 55% Daily Value for saturated fat	460

*For individuals who eat about 2,000 calories per day, <200 calories should come from saturated fat

= 1 teaspoon sugar

Adapted from: Winnebago/Omaha Diabetes Project document produced by IHS. Division of Diabetes Treatment and Prevention, 1/2012.



Reducing Sugar: Cooking (Wičhózaŋn) & Baking with Artificial Sweeteners

Many people with diabetes choose to use artificial sweeteners when cooking or baking since artificial sweeteners don't impact blood sugar levels. For baked goods (like cookies, cake, or brownies), it is usually not possible to replace all of the sugar in a recipe with an artificial sweetener. This is because sugar not only provides sweetness to recipes, but also:

- structure & texture
- moisture
- browning properties

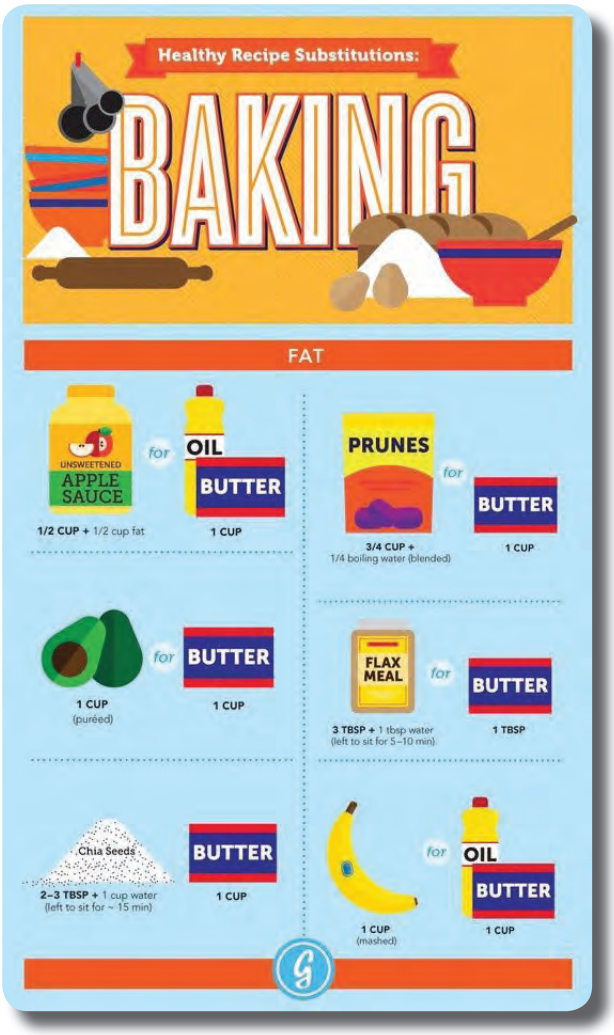
Try replacing half of the sugar with one of the alternatives below. If you are unhappy with results, try using a different ratio (more sugar & less artificial sweetener). Also, brands of artificial sweeteners are rapidly changing so check your grocery stores regularly to see what is available and how the sweetener is best used.

Sweetener*	Conversion*	Other Information
Sweet N' Low (saccharin)	24 packets = 1 cup sugar 1 packet = 2 teaspoons sugar	May result in lumpy texture or metallic after-taste.
Brown Sweet N' Low (saccharin)	4 teaspoons = 1 cup brown sugar 1 teaspoon = 1/4 cup brown sugar	Note that measurements differ from packet sweeteners.
Splenda (Sucrolose) - baking formulation	1 teaspoon = 1 teaspoon sugar 1 cup = 1 cup sugar	Good for baking as long as you use the Splenda baking formulation (called Splenda: No Calorie Sweetener-granulated).
Splenda Brown Sugar Blend	½ cup = 1 cup brown sugar	This product contains sugar and will impact blood sugar levels.
Sunett/Sweet One (Acesulfame-k)	24 packets = 1 cup sugar 1 packet = 2 teaspoons sugar	May result in bitter after-taste.
Truvia/PureVia/Stevia in the Raw (Stevia)	24 packets = 1 cup sugar 1 packet = 2 teaspoons sugar	Will not crystallize or caramelize so you will not get the browning effect desired of many baked goods; lower oven temp. by 25 to 50° and increase baking time by 5- to 10 minutes. It's best to combine at least ¼ cup of sugar with this substitute for a quality product. For crisper cookies, add 1-2 Tbsp. of cornstarch to dry ingredients.
Equal/Nutrasweet (aspartame)	24 packets = 1 cup sugar 1 packet = 2 teaspoons sugar	Not good for baking as it loses sweetness when heated. May work in pudding or recipes that don't require baking.

**Read package carefully for instructions on the best way to substitute the sweetener for sugar. The companies' websites also provide baking tips and recipes.*

Reducing Fat: Low Fat Substitutes for Cooking & Baking

- Applesauce and plain yogurt are good fat substitutes in most recipes. For maximum texture and flavor, replace no more than half the amount of fat (for example, vegetable oil, butter, or margarine) listed in the recipe with applesauce. For instance, if a recipe calls for 1/2 cup margarine, you can substitute 1/4 cup applesauce. This saves you 44 grams of total fat and 400 calories (the fat and calories in 1/4 cup margarine).
- Mashed ripe bananas work well as fat substitutes in carrot or banana cake or muffins.
- Purchased fruit puree mixtures (usually prune-based) work well in chocolate, spice, and carrot cakes. Follow the label directions.
- Fruit-flavored baby foods work well as fat substitutes (follow directions for applesauce substitution above).
- Replace 1 whole egg in a recipe with ¼ cup fat-free, cholesterol-free egg product substitutes (such as ConAgra's Egg Beaters®) or 2 egg whites. This saves you more than 10 grams of fat and 100 calories.



(Source: Betty Crocker)

Reducing Sugar & Salt: Flavoring Foods (Wóyute) with Herbs & Spices

Using herbs and spices to season food is a great way to enhance flavor. You can also use herbs and spices to replace sugar and salt in some recipes.

Fresh herbs add great flavor to uncooked dishes, like salads or cold pastas. If using in a cooked dish, add in the last few minutes of cooking so flavor stays vibrant (unless recipe says otherwise).

Dried herbs and spices are great for marinades, slow-cooked soups or stews, pastas, casseroles, and many other dishes. Add them near the start of cooking so they have time to soften and release their flavors.

- **Sweet-tasting spices** can be used to replace sugar in some recipes (such as oatmeal):

Allspice	Cloves	Anise	Ginger
Cinnamon	Nutmeg	Mace	Cardamom

- **Savory spices** can be used to replace salt in some recipes:

Black Pepper	Garlic Powder (not garlic salt)	Curry Powder
Cumin	Dill	Basil
Ginger	Coriander	Onion

Tip! Omit the salt when cooking pasta and flavor with basil, oregano, parsley and pepper before eating.

Tip! There are some salt-free seasoning blends for sale at your local grocery. Mrs. Dash is one that comes in many different flavors.

(Source: University of Nebraska Extension educational programming)

Cooking with Herbs & Spices: Delicious Flavor and Food (Wóyute) Combinations

Instead of salt, try one or more of these flavor and food combinations to season meat, poultry, fish, and vegetables:

- **Beef**: bay leaf, marjoram, nutmeg, onion, pepper, sage, thyme
- **Lamb**: curry powder, garlic, rosemary, mint
- **Pork**: garlic, onion, sage, pepper, oregano
- **Veal:** bay leaf, curry powder, ginger, marjoram, oregano
- **Chicken**: ginger, marjoram, oregano, paprika, poultry seasoning, rosemary, sage, tarragon, thyme
- **Fish**: curry powder, dill, dry mustard, marjoram, paprika, pepper
- **Carrots**: cinnamon, cloves, dill, ginger, marjoram, nutmeg, rosemary, sage
- **Corn**: cumin, curry powder, onion, paprika, parsley
- **Green Beans**: dill, curry powder, marjoram, oregano, tarragon, thyme
- **Greens**: onion, pepper
- **Potatoes**: dill, garlic, onion, paprika, parsley, sage
- **Summer Squash**: cloves, curry powder, marjoram, nutmeg, rosemary, sage
- **Winter Squash**: cinnamon, ginger, nutmeg, onion
- **Tomatoes**: basil, bay leaf, dill, marjoram, onion, oregano, parsley, pepper

Don't know how much to use?

Try this simple rule of thumb:

- For every pound of meat (or 2 cups of soup or sauce), use 1/4 teaspoon of most dried herbs and spices (except for cayenne pepper or garlic—use 1/8 teaspoon).
- If doubling a recipe, do not double herbs and spices. Increase by 1 ½ times. Taste and add more if needed.

Tip! Substituting dried herbs for fresh herbs. Dried herbs are often cheaper than fresh herbs. For every Tablespoon of fresh herbs, you can substitute 1 teaspoon of crumbled dried herbs or ¼-½ teaspoon ground dried herbs.

Storing Herbs and Spices

Dried: Store in airtight containers away from heat (e.g., not above your stove), moisture, and direct sunlight. They will last for about one year.

Fresh: Wrap stems in damp paper towels. Store in a plastic bag in the produce bin of your refrigerator. They will last about one week.

Need to Cook for a Celebration? Try These Cooking Tips to Prepare Healthy Meals

- **Skip the cheese platter appetizer**. Instead, off er guests a selection of high-fiber crackers and raw veggies to dip into hummus or low-fat dressing.
- **Cut the sodium in half**. Reduce the amount of salt you add to recipes; season with herbs and spices or flavored vinegars to add interest instead (refer to previous pages).
- **Trim the fat**. Instead of butter, cook with healthy oils, such as olive or canola. If a recipe calls for heavy cream or whole milk, use low-fat or skim milk instead. When baking, applesauce is a healthy substitute for butter (refer to previous pages).
- **Go whole grain**. Use half white flour and half whole wheat flour in your Christmas cookies. Make stuffing with whole wheat bread crumbs and extra veggies.
- **Serve lean meats**. Look for "round", "loin", or "chuck" cuts of meat (healthiest), and avoid "prime" cuts (high in fat). For dishes with ground beef, use half ground sirloin and half ground turkey or chicken breast.
- **Sweeten without sugar**. Use a low-calorie sugar substitute or flavored extracts, like vanilla, almond and peppermint, to add flavor to baked goods. Instead of chocolate chips or candies, use dried fruit, like cranberries or cherries (refer to previous pages).
- **Cut the eggnog**. If you can't entirely cut out this heavy holiday beverage, dilute full-strength eggnog with half low-fat or skim milk. Guests will be able to enjoy the flavor with less of the fat.

Tip: When used for cooking, olive oil is best used for pan frying only. It does not work for deep frying because it has too low of a smoke point and will overheat. A healthy oil to deep fry with is canola oil.

(Source: American Heart Association)

Lighten Up

Got a favorite family recipe you can't live without? Try these tips for making your classic dishes healthier.

Start with one small change. You probably won't be able to taste the difference. Slowly try making other changes, one at a time.

1. **Reduce unhealthy fats.**

   - Choose low-fat or nonfat versions of mayonnaise and dairy products like milk, cheese, sour cream, and yogurt.
   - Use canola oil in place of half the butter when you bake. For instance, if your recipe calls for ½ cup butter, use ¼ cup each butter and oil. Or, if the recipe calls for the butter to be melted, try using canola oil in place of all of the butter.
   - When pan-cooking, spray the skillet with non-stick cooking spray instead of coating with butter or oil.
   - Bake, broil, or grill instead of frying.
   - Choose full-flavored cheeses, such as sharp cheddar, Parmesan, and blue cheese, instead of mild ones. The stronger taste means you can use less and still get big flavor.

Switching from 1 cup of whole milk to 1 cup of skim milk saves you almost 60 calories and 8 grams of fat.

Swapping canola oil for butter lowers saturated fat by 11 grams per Tablespoon.

SPOTLIGHT ON: **Roasted Turkey and Gravy**
Skip rubbing down the turkey with butter or oil — this is not needed. For gravy, pour pan drippings into a measuring cup or bowl. Place in the freezer about 20 minutes. The fat will rise to the top. Skim it off before using in your gravy.

SPOTLIGHT ON: **Mashed Potatoes**
Use half the amount of butter. Try nonfat milk, buttermilk, or yogurt in place of cream or whole milk. Add fresh or dried herbs, such as chives or parsley, for more flavor.

SPOTLIGHT ON: **Bread Pudding**
Swap nonfat or low-fat milk for whole milk or cream. Cut the amount of sugar by ⅓. Use whole grain bread instead of white. Add or increase the amount of fruit. Berries, apples or pears, stone fruit, and dried fruit are all good options.

Lighten Up (Continued)

2. **Lighten it up.**
   - Use half the amount of ingredients used to decorate or top a recipe, such as frosting, coconut, grated cheese, or breadcrumbs. Or, don't use it at all.
   - Reduce the amount of sugar called for by one-third. Chances are you won't miss it.
   - Use half the amount of "add-in" ingredients when baking, such as chocolate chips or dried fruit.
   - Always measure your oil. Do not pour it straight from the bottle. Using an extra Tablespoon adds 120 calories to your dish.

Using whole wheat flour instead of regular white flour adds 13 more grams of fiber per cup.

3. **Add fiber.**
   - Swap whole wheat flour for white flour. Start by using half white and half whole wheat. Slowly work your way up to all whole wheat flour. If the dough or batter looks a little dry, add 1 Tablespoon more liquid per cup of whole wheat flour.
   - Choose whole wheat pasta or whole grain pasta blends instead of white pasta.
   - Skip the white rice. Serve recipes over brown rice, barley, quinoa, whole wheat couscous, bulgur, or polenta instead.
   - Use whole wheat breadcrumbs for breading, on top of casseroles, or to bind ground meat in meatloaf and meatballs.
   - Leave skins on fruits and veggies like apples, pears, potatoes, sweet potatoes, zucchini, cucumber, and others when you can.

Use stale whole wheat bread to make breadcrumbs. Chop bread as finely as possible with a knife. Or, tear into pieces and pulse in a blender until crumbs form. Use as is or toast crumbs in a skillet over medium heat until light brown. Freeze in an airtight container until ready to use.

4. **Go lean on protein.**
   - In recipes like tacos and chili, swap half the meat for beans. You'll add fiber and reduce unhealthy fats.
   - Watch your portions. About a pound of meat for every 4 people is a good serving size. Add more filling veggies to the meal.
   - Choose ground meats labeled 93% lean or leaner. Drain fat after cooking.
   - Trim all visible fat and remove skin from meat and poultry before cooking.
   - Use chicken or turkey sausage instead of pork sausage.
   - Choose seafood and non-meat sources of protein at least 2–3 times per week.

5. **Watch the sodium.**
   - Use low-sodium or no-salt-added canned goods or condiments, such as beans, vegetables, tomatoes, broths, soy sauce, and ketchup. Rinse canned beans and veggies before using.
   - Reduce the amount of salt in baked goods to ½ teaspoon per batch.
   - Season with herbs and spices instead of salt. See previous pages for tips. Or, kick up flavor using orange, lemon, and lime zest or juice.
   - Measure salt before adding to your dish. An extra ¼ teaspoon salt has about 600 mg of sodium, more than a quarter of the recommended daily maximum for an adult!

Tips for Eating Healthy During Times of Celebration

For many people, celebrations involve sharing food with family and friends. You may not be able to control what food you're served, and you're bound to see other people eating a lot of tempting treats. Meet the challenges with a plan:

1. **Eat at your usual eating times.**
   - Eat close to your usual times to keep your blood sugar steady. If your meal is served later than normal, eat a snack at your usual mealtime and eat a little less when dinner is served.
   - Don't skip meals to save up for a feast. It will be harder to keep your blood sugar in control, and you'll be really hungry and more likely to overeat.
   - Plan to stay on top of your blood sugar. Check it more often during the holidays.

2. **Outsmart the Buffet.**
   - Invited to a party? Offer to bring a healthy dish along.
   - Start with vegetables to take the edge off your appetite (avoid creamy dressings & sauces).
   - Limit the number of starchy foods (like potatoes bread, and crackers) you choose.
   - Avoid or limit alcohol. Alcohol can lower blood sugar and interact with diabetes medicines.
   - Stick to drinking water. Avoid pop, juice, and punch—which can increase blood sugar levels.
   - Eat slowly. It takes at least 20 minutes for your brain to realize you're full.

3. **Fit in Favorites.**
   - Watch you portions. Have a small plate of the foods you like best and then move away from the food table.
   - If you have a sweet treat, cut back on other carbs (like potatoes, bread, and crackers) during the meal.

4. **Keep Moving: Make Time to Exercise.**
   - Being active can help make up for eating more than usual. Try taking a walk after you eat.

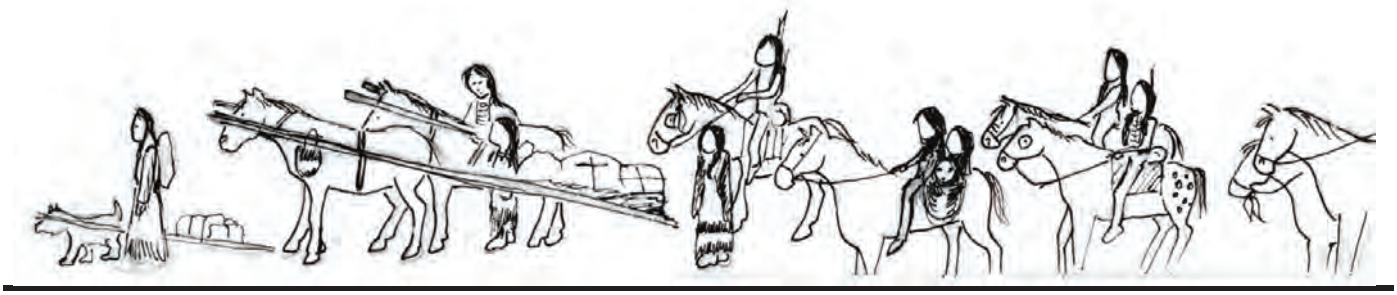
5. **Get Your Zzz's.**
   - Going out more and staying out later often means cutting back on sleep. Sleep loss can make it harder to control your blood sugar. Also, when you're sleep deprived you'll tend to eat more and choose high-fat, high-sugar foods. Aim for 7 to 8 hours of sleep per night to guard against mindless eating.
   - Most of all, remember what the season is about—celebrating and connecting with the people you care about. When you focus more on the fun, it's easier to focus less on the food.

(Adapted from the Center for Disease Control & Prevention)

Use the "10 Doable Ways You Can Enjoy Meals on Special Days" to help you stick to a plan for eating healthy during times of celebration.

Tip: If having turkey, choose light meat over the fatty dark meat to lower fat intake. Resist the temptation to drown everything in gravy!

Tip: Choose pumpkin pie instead of pecan pie. Even with a dollop of whipped cream, you'll cut calories and sugar by at least a third.



10 Doable Ways You Can Enjoy Meals on Special Days

Before you go to a holiday meal, feast day, potluck, graduation, or birthday party, make a plan to stay on a healthy eating track:

- Choose the ways you can stay on track and check: **YES! I can!**
- After the event, check the ones you did: **YES! I did it!**

Special Meal: _____ Date:_____

1 Earlier in the day, eat breakfast or healthy snacks. Try not to delay eating so you can eat more at the feast. If you skip meals, it may be harder to manage your blood sugar. It will make you hungry. You will be more likely to overeat at the special meal.

☐ **Yes! I can!** ☐ **Yes! I did it!**

2 At the special gathering, limit before-meal chips and crackers. Try putting a small portion on a small plate or napkin and eat only that. Avoid creamy dips and cheese. Choose salsa as a dip if it is served.

☐ **Yes! I can!** ☐ **Yes! I did it!**

3 Limit the number of starchy foods (potatoes, macaroni, bread) you choose. Have a serving of just your favorite one. Or eat ½ slice bread and a few Tablespoons of other starches.

☐ **Yes! I can!** ☐ **Yes! I did it!**

4 Choose vegetables that are raw, grilled or steamed. Avoid vegetables in cream sauce, gravy, butter or cheese sauce.

☐ **Yes! I can!** ☐ **Yes! I did it!**

5 Drink calorie-free drinks like water, unsweetened tea, seltzer or diet sodas. Avoid regular sodas and juice.

☐ **Yes! I can!** ☐ **Yes! I did it!**

6 Avoid drinks with alcohol or limit them. Women should drink no more than one alcoholic drink a day. Men should drink no more than two.

☐ **Yes! I can!** ☐ **Yes! I did it!**

7 If you choose to eat dessert, have a small piece. Ask for half of a piece of cake or pie. Try not to eat the frosting on cake. Don't add whipped cream.

☐ **Yes! I can!** ☐ **Yes! I did it!**

8 After the meal, take a walk with family members. Walking will lower your blood sugar level. You will have more energy.

☐ **Yes! I can!** ☐ **Yes! I did it!**

9 If you eat too much, don't feel bad. You have not failed because of one meal. Think about the days you did not overeat.

☐ **Yes! I can!** ☐ **Yes! I did it!**

10 Plan to get back on track the next day. Make a plan for what you will eat for breakfast- maybe a boiled egg and a piece of whole wheat toast with non-fat milk (or soy milk). You are back on track!

☐ **Yes! I can!** ☐ **Yes! I did it!**

Produced by IHS Division of Diabetes Treatment and Prevention, 12/2012. To print this and other patient education material, go to www.diabetes.ihs.gov, click **Printable Materials.**

Carbohydrate Counting for People with Diabetes

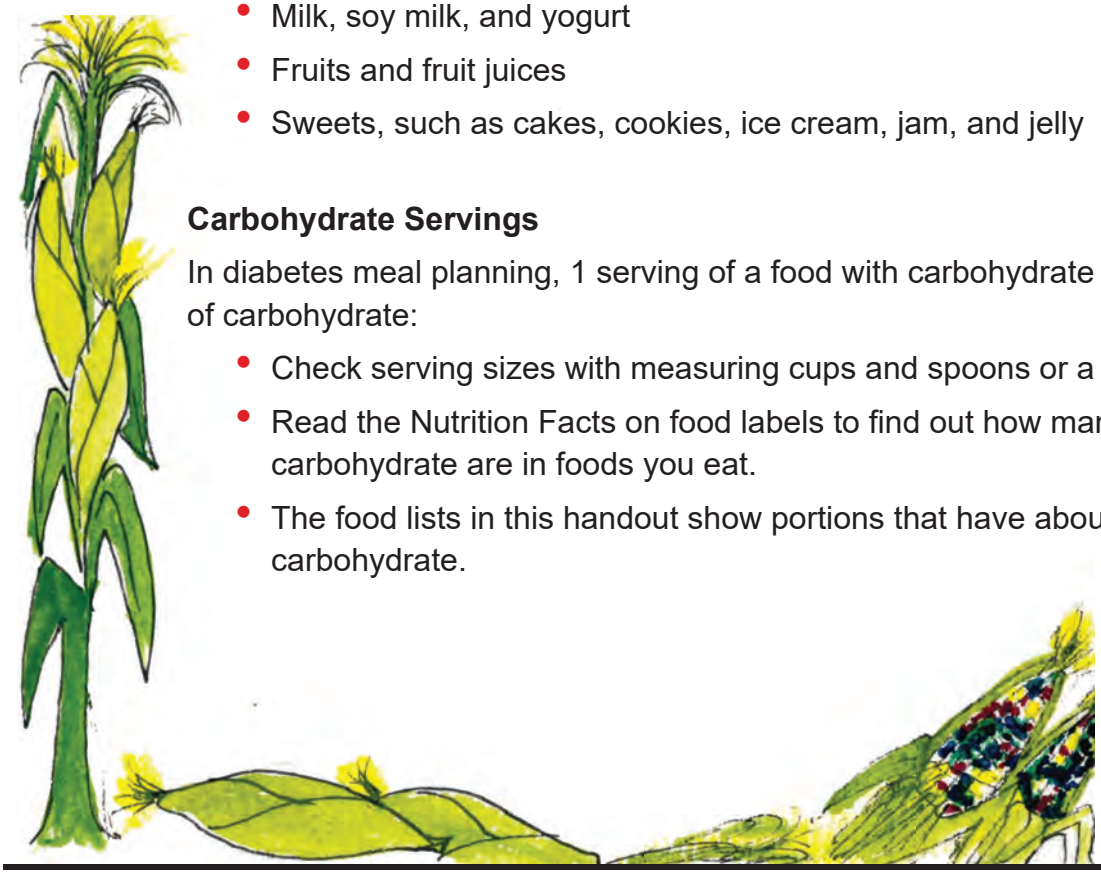
When you have diabetes, a good habit is to use daily carbohydrate counting to help make sure that you are keeping your blood sugar in the ideal range. Talk to your doctor about what your ideal blood sugar should be.

Why Is Carbohydrate Counting Important?

- Counting carbohydrate servings may help you to control your blood glucose level so that you feel better.
- The balance between the carbohydrates you eat and insulin determines what your blood glucose level will be after eating.
- Carbohydrate counting can also help you plan your meals.

Which Foods Have Carbohydrates?

- Breads, crackers, and cereals
- Pasta, rice, and grains
- Starchy vegetables, such as potatoes, corn, and peas
- Beans and legumes
- Milk, soy milk, and yogurt
- Fruits and fruit juices
- Sweets, such as cakes, cookies, ice cream, jam, and jelly



Carbohydrate Servings

In diabetes meal planning, 1 serving of a food with carbohydrate has about 15 grams of carbohydrate:

- Check serving sizes with measuring cups and spoons or a food scale.
- Read the Nutrition Facts on food labels to find out how many grams of carbohydrate are in foods you eat.
- The food lists in this handout show portions that have about 15 grams of carbohydrate.

Food (Wóyute) Lists for Carbohydrate Counting

1 serving = about 15 grams of carbohydrate

Starches

- 1 slice bread (1 ounce)
- 1 tortilla (6-inch size)
- ¼ large bagel (1 ounce)
- 2 taco shells (5-inch size)
- ½ hamburger/hot dog bun (1 ounce)
- ¾ cup ready-to-eat cereal
- ½ cup cooked cereal
- 1 cup broth-based soup
- 4-6 small crackers
- ⅓ cup pasta or rice (cooked)
- ½ cup beans, peas, corn, sweet potatoes, winter squash, or mashed or boiled potatoes (cooked)
- ¼ large baked potato (3 ounces)
- ¾ ounce pretzels, potato chips, or tortilla chips
- 3 cups popcorn (popped)

Fruit

- 1 small fresh fruit (4 ounces)
- ½ cup canned fruit
- ¼ cup dried fruit (2 Tablespoons)
- 17 small grapes (3 ounces)
- 1 cup melon or berries
- 2 tablespoons raisins
- ½ cup fruit juice

Milk

- 1 cup fat-free or reduced-fat milk
- 1 cup soy milk
- ⅔ cup (6 ounces) fat-free yogurt sweetened with sugar-free sweetener

Sweets and Desserts

- 2-inch square cake (unfrosted)
- 2 small cookies (⅔ ounce)
- ½ cup ice cream or frozen yogurt
- ¼ cup sherbet or sorbet
- 1 Tablespoon syrup, jam, jelly, table sugar, or honey
- 2 Tablespoons light syrup

Other Foods

- Count 1 cup raw vegetables or ½ cup cooked non-starchy vegetables as zero carbohydrate servings or "free" foods. If you eat 3 or more servings at one meal, count them as 1 carbohydrate serving.
- Foods that have less than 20 calories in each serving also may be counted as zero carbohydrate servings or "free" foods.
- Count 1 cup of casserole or other mixed foods as 2 carbohydrate servings.

Meal (Owóte) Planning Tips

- A meal plan tells you how many carbohydrate servings to eat at your meals and snacks. For many adults, eating 3 to 5 servings of carbohydrate foods at each meal and 1 or 2 carbohydrate servings for each snack works well.
- In a healthy daily meal plan, most carbohydrates come from:
  - 5 servings of fruits and vegetables
  - 3 servings of whole grains
  - 2-4 servings of milk or milk products
- Check your blood glucose level regularly. It can tell you if you need to adjust the timing of when you eat carbohydrates.
- Eating foods that have fiber, such as whole grains, and having very few salty foods is good for your health.
- Eat 4 to 6 ounces of meat or other protein foods (such as soybean burgers) each day. Choose low-fat sources of protein, such as lean beef, lean pork, chicken, fish, low-fat cheese, or vegetarian foods, such as soy.
- Eat some healthy fats, such as olive oil, canola oil, and nuts.
- Eat very little saturated fats. These unhealthy fats are found in butter, cream, and high-fat meats, such as bacon and sausage.
- Eat very little or no trans fats. These unhealthy fats are found in all foods that list “partially hydrogenated” oil as an ingredient.

Nutrition Facts Label Reading Tips

The Nutrition Facts panel on a label lists the grams of total carbohydrate in 1 standard serving. The label’s standard serving may be larger or smaller than 1 carbohydrate serving.

To figure out how many carbohydrate servings are in the food:

- Look first at the label’s standard serving size.
- Then check the grams of total carbohydrate. This is the amount of carbohydrate in 1 standard serving.
- Divide the grams of total carbohydrate by 15. This number equals the number of carbohydrate servings in 1 standard serving. **Remember: 1 carbohydrate serving is 15 grams of carbohydrate.**
- Note: You may ignore the grams of sugars on the Nutrition Facts panel because they are included in the grams of total carbohydrate.

Sample 1-Day Menu

Total Carbohydrate Servings: 15

Breakfast	• 1 small banana (1 carbohydrate serving) • ¾ cup corn flakes (1 carbohydrate serving) • 1 cup fat-free or low-fat milk (1 carbohydrate serving) • 1 slice whole wheat bread (1 carbohydrate serving) with 1 teaspoon soft margarine
Lunch	• 2 ounces lean meat (for sandwich) • 2 slices whole wheat bread (2 carbohydrate servings) • Raw vegetables: 3-4 carrot sticks, 3-4 celery sticks, 2 lettuce leaves • 1 cup fat-free or low-fat milk (1 carbohydrate serving) • 1 small apple (1 carbohydrate serving)
Snack	• ¼ cup canned apricots (1 carbohydrate serving) • ¾ ounce unsalted mini-pretzels (1 carbohydrate serving)
Evening Meal	• 3 ounces lean roast beef • ½ large baked potato (2 carbohydrate servings) • 1 Tablespoon reduced-fat sour cream • ½ cup green beans • 1 vegetable salad: lettuce, ½ cup raw vegetables, and 1 Tablespoon light salad dressing • 1 small whole wheat dinner roll (1 carbohydrate serving) • 1 teaspoon soft margarine • 1 cup melon balls (1 carbohydrate serving)
Snack	• 6 ounces low-fat fruit yogurt with sugar-free sweetener (1 carbohydrate serving) • 2 Tablespoons unsalted nuts

Approximate Nutrition Analysis: Calories: 1,675; Protein: 84g (20% of calories); Carbohydrate: 247g (57% of calories), Carbohydrate Servings: 15; Fat: 44g (23% of calories); Sodium: 2,243mg; Fiber: 24g; Cholesterol: 154mg

Challenge Yourself!

Look at the 3 breakfast menus below. Use the Food List for Carbohydrate Counting to sum the number of carbohydrates in each meal option.

Option 1	Option 2	Option 3
1 cup oatmeal sprinkled with ¼ cup dried cranberries ½ cup orange juice 1 cup milk	2 slices toast with 2 Tablespoons jelly 1 small apple with peanut butter 6 oz. unsweetened sugar-free yogurt 2 egg whites 1 cup black coffee	2 egg whites 2 links of chicken sausage 1 slice toast 1 cup Black coffee with 1 teaspoon Splenda
Total Carbs: _____	Total Carbs: _____	Total Carbs: _____

Rank the meal options from lowest number of carbohydrates to highest number of carbohydrates.

_____ Lowest Carb Option

_____

_____ Highest Carb Option

Option 1: 5 carbohydrates (i.e., 2 carbs for oatmeal, 1 carb for cranberries, 1 carb for orange juice, and 1 carb for milk); Option 2: 6 carbohydrates (i.e., 2 carbs for toast, 2 carbs for jelly, 1 carb for apple, 1 carb for yogurt); Option 3: 1 carb (i.e., 1 carb for toast). Rank order of lowest to highest carbohydrates: Option 3, Option 1, Option 2

Challenge Yourself!

Set a Goal

Choose (kaȟníğa) one of the goals below (or set your own) to try during the next month:

- ❒ I will use the "10 Doable Ways You Can Enjoy Meals on Special Days" worksheet to help me eat healthy during an upcoming celebration.
- ❒ I will try altering a favorite recipe using the suggested sugar and/or fat substitutes described in this lesson.
- ❒ I will track carbohydrates I eat (carbohydrate counting) to help keep my blood sugar in the ideal range.
- ❒ I will:

_____

_____

Cheyenne River Cooking for Health

FN198 (Revised)

Ingredient Substitutions

Julie Garden-Robinson, Ph.D., R.D., L.R.D.
Food and Nutrition Specialist

Ingredient Substitutions

Have you ever been all set to prepare a food and suddenly discovered you were missing a certain ingredient? Sometimes it is inconvenient to go to the store to purchase the necessary ingredient. It may be more convenient to try a substitute from supplies available in your kitchen.

The following chart gives substitutes that may be used to achieve a product that is similar to the original. There are, however, a number of factors to consider when substituting ingredients. Each ingredient in a recipe has a specific function. Substitution of one ingredient for another may alter the taste, color, moisture content or texture of the product. For this reason, it is suggested that ingredient substitution be used in unexpected situations only.

If you don't have the food listed in the "ingredient" column, try one of the alternatives listed in the "substitutes" column.

NDSU EXTENSION SERVICE

January 2018

Ingredient	Amount	Substitutes
Allspice	1 teaspoon	• ½ teaspoon cinnamon and ½ teaspoon ground cloves
Apple pie spice	1 teaspoon	• ½ teaspoon cinnamon, ¼ teaspoon nutmeg and 1/8 teaspoon cardamom
Arrowroot starch	1 teaspoon	• 1 Tablespoon flour • 1½ teaspoon cornstarch
Baking powder	1 teaspoon	• ¼ teaspoon baking soda plus 5/8 teaspoon cream of tartar • ¼ teaspoon baking soda plus ½ cup sour milk or buttermilk or yogurt (decrease liquid called for in recipe by ½ cup) • ¼ teaspoon baking soda plus ½ Tablespoon vinegar or lemon juice used with sweet milk to make ½ cup (decrease liquid called for in recipe by ½ cup) • ¼ teaspoon baking soda plus ¼ to ½ cup molasses (decrease liquid in recipe by 1 to 2 tablespoons) • $^1/_3$ teaspoon baking soda plus ½ teaspoon cream of tartar
Bay leaf	1 whole	• ¼ teaspoon cracked bay leaves
Beau monde seasoning	1 teaspoon	• 1 teaspoon seasoning salt • ½ teaspoon table salt plus dash of garlic, onion and celery salts or powders
Beef stock base, instant	2 teaspoons	• 1 beef bouillon cube
Beef stock base, instant	4 teaspoons dissolved in 1¼ cups water	• 1 can (10½ ounces) condensed, undiluted beef bouillon or consumé
Bread crumbs, dry	1/3 cup	• 1 slice of bread
Bread crumbs, soft	3/4 cup	• 1 slice bread
Broth, beef or chicken	1 cup	• 1 bouillon cube dissolved in 1 cup boiling water • 1 teaspoon powdered broth base dissolved in 1 cup boiling water
Butter	1 cup	• 7/8 to 1 cup hydrogenated fat plus ½ teaspoon salt • 7/8 cup oil plus ½ teaspoon salt • 7/8 cup lard plus ½ teaspoon salt • 1 cup margarine • 7/8 cup oil
Carob powder	If recipe calls for 3 Tablespoons carob powder plus 2 Tablespoons water	• 1 ounce unsweetened chocolate

Ingredient	Amount	Substitutes
Catsup	1 cup	• 1 cup tomato sauce, ½ cup sugar and 2 Tablespoons vinegar (for use in cooking)
Chicken stock base, instant	1½ teaspoons	• 1 chicken bouillon cube
Chicken stock base, instant	1 Tablespoon dissolved in 1 cup water	• 1 cup canned or homemade chicken broth or stock
Chili sauce	1 cup	• 1 cup tomato sauce, ¼ cup brown sugar, 2 Tablespoons vinegar, ¼ teaspoon cinnamon, dash of ground cloves and dash of allspice
Chives, finely chopped	2 teaspoons	• 2 teaspoons finely chopped green onion tops
Chocolate chips, semisweet	1 ounce	• 1 ounce sweet cooking chocolate
Chocolate, semisweet	$1^{2}/_{3}$ ounces	• 1 ounce unsweetened chocolate plus 4 teaspoons sugar
Chocolate, semisweet pieces, melted	6 ounce package	• 2 squares unsweetened chocolate plus 2 Tablespoons shortening and ½ cup sugar
Chocolate, unsweetened	1 ounce or square	• 3 Tablespoons cocoa plus 1 Tablespoon butter or margarine • 3 Tablespoons carob powder plus 2 Tablespoons water
Cocoa	¼ cup or 4 Tablespoons	• 1 ounce (square) chocolate (decrease fat called for in recipe by ½ Tablespoon)
Coconut	1 Tablespoon grated, dry	• 1½ Tablespoons fresh, grated
Coconut Cream	1 cup	• 1 cup cream
Coconut Milk	1 cup	• 1 cup milk
Corn Syrup	1 cup	• 1 cup sugar plus ¼ cup liquid (use whatever liquid is called for in the recipe) • 1 cup honey
Cornstarch (for thickening)	1 Tablespoon	• 2 Tablespoons all-purpose flour • 4 to 6 teaspoons quick-cooking tapioca
Cracker crumbs	¾ cup	• 1 cup bread crumbs
Cream cheese		• Part skim milk ricotta cheese or lowfat cottage cheese beaten until smooth
Cream, half-and-half	1 cup	• 7/8 cup whole milk plus ½ Tablespoon butter or margarine • 3 Tablespoons oil plus milk to equal 1 cup • 1 cup evaporated milk
Cream, heavy (36 to 40% fat)	1 cup	• ¾ cup milk plus 1/3 cup butter or margarine (for use in cooking and baking) • 2/3 cup buttermilk plus 1/3 cup oil • Evaporated skim milk or equal parts of part-skim milk ricotta cheese and nonfat yogurt beaten until smooth (this mixture cannot be heated because of separation)

Ingredient	Amount	Substitutes
Cream, light (18 to 20% fat)	1 cup	• 1 cup undiluted evaporated milk • 14 Tablespoons milk plus 3 Tablespoons butter or margarine
Cream, sour *(See Sour cream, cultured)*	1 cup	• 3 Tablespoons butter plus 7/8 cup sour milk • 7/8 cup buttermilk plus 3 Tablespoons butter
Cream, whipped		• Chill a 13 oz. can of evaporated milk for 12 hours. Add 1 teaspoon lemon juice. Whip until stiff. • Beat until stiff: ½ cup ice-cold water and ½ cup nonfat dry milk. Add ½ cup sugar, slowly, while beating. Then add 2 Tablespoons lemon juice and beat until mixed well.
Cream, whipping	1 cup	• 2 Tablespoons lemon juice, 2 Tablespoons sugar, 1 cup evaporated milk • ¾ cup milk plus 1/3 cup butter (for cooking only)
Cream of tartar	½ teaspoon	• 1½ teaspoon lemon juice or vinegar
Dill plant, fresh or dried	3 heads	• 1 Tablespoon dill seed
Egg	1 whole (3 Tablespoons)	• 3 Tablespoons slightly beaten egg • 3 Tablespoons plus 1 teaspoon frozen egg, thawed • 2½ Tablespoons sifted dry whole egg powder plus 2½ Tablespoons lukewarm water • ¼ cup egg substitute • 1 egg white and 2 teaspoons oil • 2 egg whites • 2 yolks plus 1 Tablespoon water (in cookies) • 2 yolks (in custards, cream fillings and similar mixtures)
Egg substitute	1 egg	• 2 egg whites. May add 1 to 3 teaspoons vegetable oil for each yolk omitted. • 1 egg white, 2¼ teaspoons nonfat dry milk powder, and 2 teaspoons vegetable oil (may store 1 week in refrigerator or freezer) • In cookies and cakes only — use 2 Tablespoons water plus ½ teaspoon baking powder • In cookie and cake recipes that call for 2 or 3 eggs — for each egg, use 2 Tablespoons flour, ½ Tablespoon shortening, ½ teaspoon baking powder, 2 Tablespoons liquid (use liquid called for in recipe)

Ingredient	Amount	Substitutes
Egg white	1 white (2 Tablespoons)	• 2 Tablespoons frozen egg white, thawed • 2 teaspoons sifted dry egg white powder plus 2 Tablespoons lukewarm water
Egg yolk	1 yolk (1½ Tablespoons)	• 2 Tablespoons sifted dry egg yolk powder plus 2 teaspoons water • 1 1/3 Tablespoons frozen egg yolk, thawed
Extracts (example: mint extract)	1 teaspoon ¼ teaspoon	• ¼ teaspoon oil of similar flavor • 2 drops oil of similar flavor (oils won't evaporate at high temperatures)
Flavor-based oil (example: oil of peppermint)	¼ teaspoon 2 drops	• 1 teaspoon extract of same flavor • ¼ teaspoon extract of same flavor
Flour, all-purpose (for thickening)	1 Tablespoon	• ½ Tablespoon cornstarch, potato starch, rice starch or arrowroot starch • 1 Tablespoon granulated tapioca • 2 to 3 teaspoons quick-cooking tapioca • 1 Tablespoon waxy rice flour • 1 Tablespoon waxy corn flour • 2 Tablespoons browned flour • 1½ Tablespoons whole wheat flour • ½ Tablespoon whole wheat flour plus ½ Tablespoon all-purpose flour
Flour, all-purpose (Note: Speciality flours added to yeast bread recipes will result in a reduced volume and a heavier product)	1 cup sifted	The following flours require more leavening than wheat flour, so add 2½ teaspoons baking powder per cup of flour. An even lighter product results when buttermilk plus ½ teaspoon baking soda is substituted for each cup of milk in the recipe: • 1¼ cups rye flour • ¾ cup rice flour • 1½ cups oat flour • 1 cup corn flour • ¾ cup coarse cornmeal • 1 cup fine cornmeal • 5/8 cup potato starch flour • 1 1/8 cups cake flour • 1½ cups bread crumbs • 1 cup rolled oats • 1½ cups barley flour • 1 cup unsifted all-purpose flour minus 2 Tablespoons

Ingredient	Amount	Substitutes
Flour, all-purpose — *continued*	1 cup sifted	• 1/3 cup cornmeal or soybean flour plus 2/3 cup all-purpose flour • ½ cup cornmeal, bran, rice flour, rye flour or whole wheat flour plus ½ cup all-purpose flour • Substitute whole wheat flour for ¼ to ½ of white flour called for in a recipe • ¼ cup soybean flour plus ¾ cup all-purpose flour • 1/3 cup wheat germ plus 2/3 cup all-purpose flour
Flour, cake	1 cup sifted	• 1 cup minus 2 Tablespoons sifted all-purpose flour
Flour, pastry	1 cup	• 7/8 cup all-purpose flour
Flour, self-rising	1 cup	• 1 cup minus 2 teaspoons all-purpose flour plus 1½ teaspoons baking powder and ½ teaspoon salt
Flour, whole wheat	1 cup	• 1 cup white wheat flour • 1 cup graham flour
Garlic	1 clove, small	• 1/8 teaspoon garlic powder or ¼ teaspoon instant minced garlic
Garlic salt	¾ teaspoon	• 1 medium size clove or ½ teaspoon minced fresh
Gelatine, flavored	3-ounce package	• 1 Tablespoon plain gelatine plus 2 cups fruit juice
Ginger	1/8 teaspoon, powdered	• 1 Tablespoon candied ginger rinsed in water to remove sugar, finely cut • 1 Tablespoon fresh ginger, grated
Herbs, dried	1 teaspoon	• 1 Tablespoon fresh, finely cut
Herbs, fresh	1 Tablespoon, finely cut	• 1 teaspoon dried herbs • ½ teaspoon ground herbs
Honey	1 cup	• 1¼ cups sugar plus ¼ cup liquid (use liquid called for in recipe)
Horseradish	1 Tablespoon, fresh	• 2 Tablespoons bottled
Lemon	1 teaspoon juice 1 medium	• ½ teaspoon vinegar • 2 to 3 Tablespoons lemon juice and 1 to 2 teaspoons rind
Lemon peel, dried	1 teaspoon	• 1 to 2 teaspoons grated fresh lemon peel • grated peel of 1 medium size lemon • ½ teaspoon lemon extract
Macaroni (4 cups cooked)	2 cups, uncooked	• 2 cups spaghetti, uncooked, (2 inch pieces) • 4 cups noodles, uncooked

Ingredient	Amount	Substitutes
Maple sugar	½ cup	• 1 cup maple syrup
Maple sugar (grated and packed)	1 Tablespoon	• 1 Tablespoon white granulated sugar
Marshmallows, miniature	1 cup	• 10 large
Mayonnaise (for use in salads and salad dressings)	1 cup	• ½ cup yogurt and ½ cup mayonnaise or salad dressing • 1 cup salad dressing • 1 cup sour cream • 1 cup yogurt • 1 cup cottage cheese pureed in a blender
Milk, buttermilk	1 cup	• 1 cup plain yogurt
Milk, buttermilk or sour	1 cup	• 1 cup minus 1 Tablespoon sweet milk plus 1 Tablespoon lemon juice or vinegar (allow to stand 5 to 10 minutes) • 1 cup sweet milk and 1¾ teaspoons cream of tartar
Milk, evaporated (whole or skim)	If recipe calls for ½ cup plus ½ cup water	• 1 cup liquid whole milk
Milk, evaporated	1 can (about 12 ounces)	Whip until smooth: • 1 cup nonfat dry milk • 1¾ cups warm water • Keep refrigerated
Milk, skim	1 cup	• 4 to 5 Tablespoons nonfat dry milk powder and enough water to make one cup, or follow manufacturer's directions
	¼ cup	• 4 teaspoons nonfat dry milk powder plus water to make ¼ cup, or follow manufacturer's directions
	1/3 cup	• 2 Tablespoons nonfat dry milk powder plus water to make 1/3 cup, or follow manufacturer's directions
Milk, sweetened condensed	1 can (about $1^1/_3$ cup)	Heat the following ingredients until sugar and butter are dissolved: • 1/3 cup and 2 Tablespoons evaporated milk • 1 cup sugar • 3 Tablespoons butter or margarine
	1 cup	• Heat the following ingredients until sugar and butter are dissolved: 1/3 cup evaporated milk 3/4 cup sugar 2 Tablespoons butter or margarine • Add 1 cup plus 2 Tablespoons dry milk powder to ½ cup warm water. Mix well. Add ¾ cup sugar and stir until smooth.

Ingredient	Amount	Substitutes
Milk, sweetened condensed	To make about 1¼ cups in blender	• Combine 1 cup instant nonfat dry milk, 2/3 cup sugar, 1/3 cup boiling water and 3 Tablespoons margarine. Blend until smooth. To thicken, let set in refrigerator for 24 hours.
Milk, whole	1 cup	• 1 cup reconstituted nonfat dry milk plus 2½ teaspoons butter or margarlne • ½ cup evaporated milk plus ½ cup water • 1 cup buttermilk plus ½ teaspoon baking soda (for use in baking, decrease baking powder by 2 teaspoons) • 4 Tablespoons whole dry milk plus 1 cup water or follow manufacturer's directions • 1 cup fruit juice or 1 cup potato water (in baking) • ¼ cup nonfat dry milk, 7/8 cup water and 2 teaspoons butter or margarine • 1 cup water plus 1½ teaspoons butter (in baking)
Molasses	1 cup	• ¾ cup sugar plus 2 teaspoons baking powder (increase liquid called for in recipe by 5 Tablespoons and decrease baking soda by ½ teaspoon) • ¾ cup sugar plus 1¼ teaspoons cream of tartar (increase liquid called for in recipe by 5 Tablespoons)
Mushrooms	1 pound fresh	• 3 ounces dried mushrooms • 6- or 8-ounce can
Mushrooms, powdered	1 Tablespoon	• 3 Tablespoons whole dried mushrooms • 4 ounces fresh • 2 ounces canned
Mustard, dry	1 teaspoon	• 1 Tablespoon prepared mustard • ½ teaspoon mustard seeds
Oil, flavor-based (example: oil of peppermint)		• See Flavor-Based Oil
Onion	1 small	• ¼ cup chopped, fresh onion • $1^1/_3$ teaspoons onion salt • 1 to 2 Tablespoons minced onion • 1 teaspoon onion powder

Ingredient	Amount	Substitutes
Orange	1 medium	• 6 to 8 Tablespoons juice
Orange peel, dried	1 Tablespoon	• 2 to 3 Tablespoons grated fresh orange peel
		• Grated peel of 1 medium-size orange
	2 teaspoons	• 1 teaspoon orange extract
Orange peel, fresh	1 medium	• 2 to 3 Tablespoons grated fresh orange peel
Parsley, dried	1 teaspoon	• 3 teaspoons fresh parsley, chopped
Peppers, green bell	1 Tablespoon, dried	• 3 Tablespoons fresh green pepper, chopped
Peppers, red bell	1 Tablespoon, dried	• 3 Tablespoons fresh red bell pepper, chopped
		• 2 Tablespoons pimiento, chopped
Peppermint extract	1 Tablespoon	• ¼ cup fresh mint, chopped
		• See also Extracts
Pimiento	2 Tablespoons chopped	• 1 Tablespoon dried red bell peppers, rehydrated
		• 3 Tablespoons fresh red bell pepper, chopped
Pumpkin pie spice	1 teaspoon	• ½ teaspoon cinnamon, ¼ teaspoon ginger, 1/8 teaspoon allspice and 1/8 teaspoon nutmeg
Rennet	1 tablet	• 1 Tablespoon liquid rennet
Rice	1 cup regular, uncooked (3 cups cooked)	• 1 cup uncooked converted rice
		• 1 cup uncooked brown rice
		• 1 cup uncooked wild rice
	1 cup cooked	• 1 cup cooked bulgur wheat
		• 1 cup cooked pearl barley
Rum	¼ cup	• 1 Tablespoon rum extract plus 3 Tablespoons liquid (use liquid called for in recipe or water)
Shortening, melted	1 cup	• 1 cup cooking oil (cooking oil should not be substituted if recipe does not call for melted shortening)
Shortening, solid (used in baking)	1 cup	• 1 cup minus 2 Tablespoons lard
		• $1\frac{1}{8}$ cups butter or margarine (decrease salt called for in recipe by ½ teaspoon)
Shrimp, fresh	1 cup cleaned, cooked	• ¾ pound raw in shell, clean and cook
		• 7-ounce package frozen, peeled shrimp, cooked
		• 4½- or 5-ounce can of shrimp

Ingredient	Amount	Substitutes
Sour cream, cultured	1 cup	• 7/8 cup sour milk or buttermilk plus 1/3 cup butter or margarine • Blend until smooth: 1/3 cup buttermilk, 1 Tablespoon lemon juice and 1 cup cottage cheese • 1 1/8 cups non-fat dry milk powder, ½ cup warm water, and 1 Tablespoon vinegar (mix-ture will thicken in refrigerator in a few hours) • 1 cup evaporated milk at 70°F plus 1 Tablespoon vinegar (allow to stand until it clabbers) • 1 cup plain yogurt (in cooking add a Tablespoon of cornstarch to each cup to prevent separating) • ¾ cup milk, ¾ teaspoon lemon juice and 1/3 cup butter or margarine • ¾ cup buttermilk plus ¼ cup oil • 1 cup cottage cheese and 2 or 3 teaspoons of lemon juice, pureed in blender
Spearmint, extract	1 Tablespoon	• ¼ cup fresh mint, chopped • See also Extracts
Sugar, brown	1 cup, firmly packed	• 1 cup granulated sugar • 1 cup granulated sugar plus ¼ cup molasses
Sugar, confectioners' or powdered	1 cup	• ¾ cup granulated sugar
Sugar, white	1 teaspoon 1 cup	• ½ to ¾ teaspoon honey or molasses • 2 cups corn syrup (reduce liquid called for in recipe by ¼ cup. Never replace more than ½ of sugar called for in recipe with corn syrup.) • 1 cup brown sugar, firmly packed • 1¾ cups confectioners' sugar (for uses other than baking) • 1 cup molasses plus ½ teaspoon soda (omit baking powder or use very little. Substitute molasses for no more than half the sugar. Reduce liquid in recipe by ¼ cup per cup of molasses.) • ¾ cup maple syrup (Reduce liquid called for in recipe by 3 Tablespoons.) • 1 cup honey (decrease liquid called for in recipe by ¼ cup. In baked goods, add ½ teaspoon of baking soda for each cup of honey substituted and lower baking tempera-ture 25 degrees. In cookie recipes using eggs and no additional liquid, increase the flour by

Ingredient	Amount	Substitutes
Sugar, white — *continued*		about 2 Tablespoons per cup of honey. Chill before shaping and baking. Half of the sugar in cakes, cookies and brownies can be replaced with honey. Two-thirds of the sugar can be replaced in fruit bars, but replace no more than a third of the sugar in ginger snaps with honey. When making cakes or cookies, first mix honey with the fat or the liquid, then mix with other ingredients. If this is not done, a soggy layer may form on top of the baked product.)
Sugar, white		Sweeteners: • Sugar Twin and Sprinkle Sweet: measure like sugar. Substitute 1 teaspoon sweetener for 1 teaspoon sugar, 1 cup sweetener for 1 cup sugar. • Equal: 1 packet = 2 teaspoons sugar • Sweet 10: 10 drops = 1 teaspoon sugar 1 Tablespoon = ½ cup sugar
Tapioca, granulated	1 Tablespoon 2 teaspoons	• 2 Tablespoons pearl tapioca • 1 Tablespoon flour
Tomato juice	1 cup	• ½ cup tomato sauce plus ½ cup water
Tomatoes, fresh	2 cups, chopped	• 16-ounce can
Tomato sauce	15-ounce can	• 6-ounce can tomato paste plus 1 cup water
Tomatoes, chopped	16-ounce can	• 3 fresh medium tomatoes • 16-ounce can stewed tomatoes
Tomato soup	10¾-ounce can	• 1 cup tomato sauce plus ¼ cup water
Vanilla extract	1 teaspoon	• 1-inch vanilla bean split and simmered in liquid of recipe
Wine	1 cup	• 13 Tablespoons water, 3 Tablespoons lemon juice and 1 Tablespoon sugar
Worcestershire sauce	1 teaspoon	• 1 teaspoon bottled steak sauce
Yeast, active dry	1 Tablespoon	• 1 cake (6/10 ounce), compressed (2/3 ounce) • 1 packaged (¼ ounce) active dry yeast
Yogurt, plain	1 cup	• 1 cup buttermilk • 1 cup cottage cheese blended until smooth • 1 cup sour cream

The NDSU Extension Service does not endorse commercial products or companies even though reference may be made to trade names, trademarks or service names.

Measuring Up

These commonly used equivalent measures will simplify your recipe preparation.

- **General**
  - 3 teaspoons = 1 Tablespoon
  - 4 Tablespoons = 1/4 cup
  - 5 Tablespoons + 1 teaspoon = 1/3 cup
  - 16 Tablespoons = 1 cup
  - 2 cups = 1 pint
  - 2 pints = 1 quart
- **Butter**
  - ½ ounce (1/8 stick) = 1 Tablespoon
  - 1 ounce (1/4 stick) = 2 Tablespoons
  - 2 ounces (1/2 stick) = 4 Tablespoons
  - 4 ounces (1 stick) = 1/2 cup
  - 16 ounces (4 sticks) = 2 cups
- **Chocolate**
  - 12-ounce morsels = 1 cup melted chocolate
  - 12-ounce morsels = 2 cups whole morsels
- **Cream**
  - 1 cup heavy cream = 2 cups whipped cream
- **Eggs**
  - 8-10 whites, large = 1 cup egg whites
  - 12-14 yolks, large = 1 cup egg yolks
- **Flour**
  - 1 pound = 4 cups
- **Fruit**
  - 1 medium lemon = 3 Tablespoons juice + 1 Tablespoon grated rind 1 medium orange = 1/3 to 1/2 cup juice + 2 Tablespoons grated rind 1 pound apples = 3 medium whole or 3 cups sliced
  - 1 pound bananas = 3 medium whole or 1½ cups mashed
- **Nutmeats**
  - 4½ ounces nuts, chopped = 1 cup
- **Popcorn**
  - ¼ cup kernels = 8 cups popped
- **Sugar**
  - 1 pound brown sugar = 2¼ cups
  - 1 pound confectioners’ = 4½ cups sifted

Original Authors

Nancy Brockel Kaufman
Food and Nutrition Specialist

Pat Beck
Nutrition Specialist

For more information on this and other topics, see www.ag.ndsu.edu

1M-7-06; web-4-12; web-4-13; web-1-18