ADHS: Basic Nutrition

1. Module 1 - Introduction to Nutrition

1.1 Welcome

Notes:

1.2 Introduction

Notes:

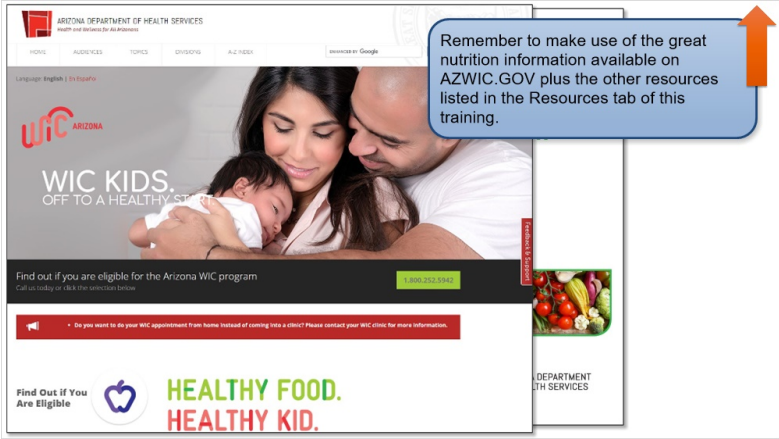
Welcome to Basic Nutrition. In this course you'll learn the core nutrition knowledge that is essential for providing participant-centered services.

What nutrition topics are covered in this training?

- Digestion and absorption
- Macronutrients - carbohydrates, proteins, fats
- Micronutrients - vitamins and minerals
- Water
- Food Labels
- Healthy Food Choices
- Dietary Guidelines
- Health and Nutrition Indicators
- The Challenge of Weight Loss, and
- Reevaluating Weight Loss Goals

Click the next button to begin.

1.3 Basic Nutrition Key Resources

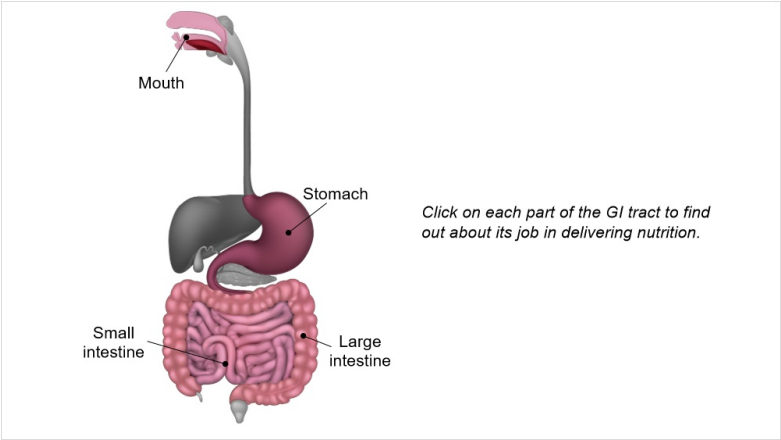


Notes:

To help you deepen you learning, please answer the activity questions found in the Basic Nutrition Guidebook as you complete each module in this course.

Remember to make use of the great nutrition information available on azwic.gov plus the other resources listed in the Resources tab of this training.

1.4 Digestion and Absorption



Notes:

Let's begin our look into nutrition by discussing digestion and absorption.

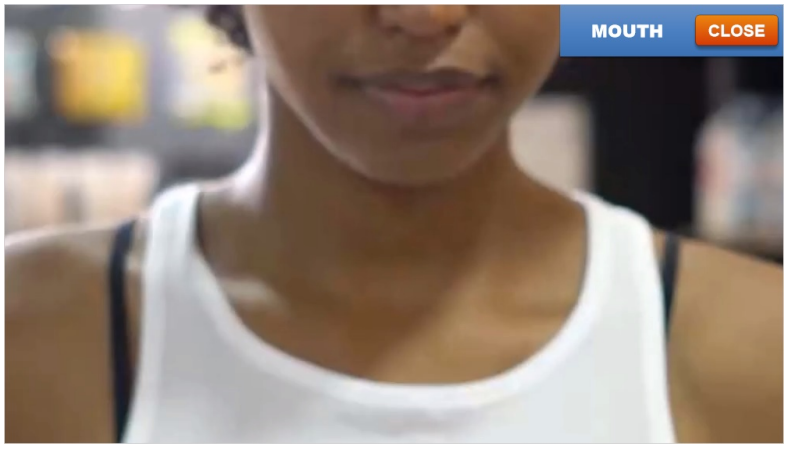
Digestion and absorption happen in the gastrointestinal (GI) tract. The GI tract includes the mouth, stomach, and intestines. Digestion is food being broken down into individual nutrients.

Absorption happens after food is digested. Nutrients are absorbed by traveling through the cells lining the intestines and entering the bloodstream.

The bloodstream transports nutrients throughout the body to deliver what we need for growth, development, and wellness.

Click on each part of the GI tract to find out about its job in delivering nutrition.

mouth (Slide Layer)



Mouth

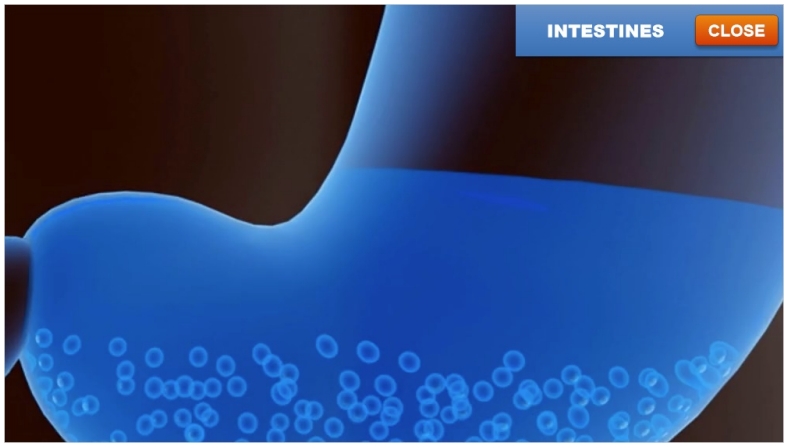
Digestion begins here with teeth chewing and crushing food. Saliva lubricates the food to make it easier to swallow. Saliva also has enzymes that cause chemical reactions. Those reactions begin to break down food before it leaves the mouth. Swallowing moves food from the mouth, down a tube called the esophagus, and into the stomach.

stomach (Slide Layer)

Stomach

The stomach acts like a food storage container with additional digestion aides. When food arrives in the stomach, it is mixed with stomach acid. More enzymes are added to break down food into a semi-liquid mass called chyme. This stomach digestion process takes one to four hours.

guts (Slide Layer)



Intestines

Chyme moves from the stomach to the small and large intestines. More enzymes from the pancreas are added to break the chyme into its most basic nutrients.

Now the nutrients can be absorbed into the body through the walls of the cells making up the intestines. This process takes three to ten hours.

Undigested food, bacteria, and waste in the intestines are eliminated in urine and feces.

1.5 Metabolism

Energy Your Body Uses = Calories

Notes:

After food is digested and absorbed, metabolism begins. Metabolism is a complex set of chemical reactions that goes on inside your body, but put simply, is the process by which the nutrients you absorb are used to generate the energy that your body needs to function

The energy your body uses is measured in calories. We'll talk more about calories a little later, including which nutrients have them, and which don't.

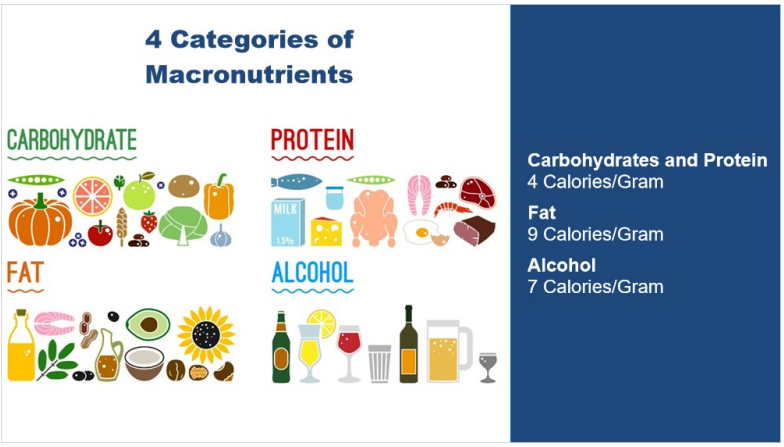
1.7 Nutrients Introduction

Notes:

Your body needs nutrients for energy, growth, maintenance, body-tissue repair, and regulating body functions.

Next, we'll get introduced to the two major categories of nutrients - Macronutrients and Micronutrients.

1.8 Macronutrients



Notes:

Macronutrients are needed in large amounts. There are four macronutrients. The big three macronutrients are carbohydrates, fat, and protein. They should make up the majority of calorie intake.

Alcohol is also considered to be a macronutrient, but is rarely mentioned along with the big three, since it isn't required by the body.

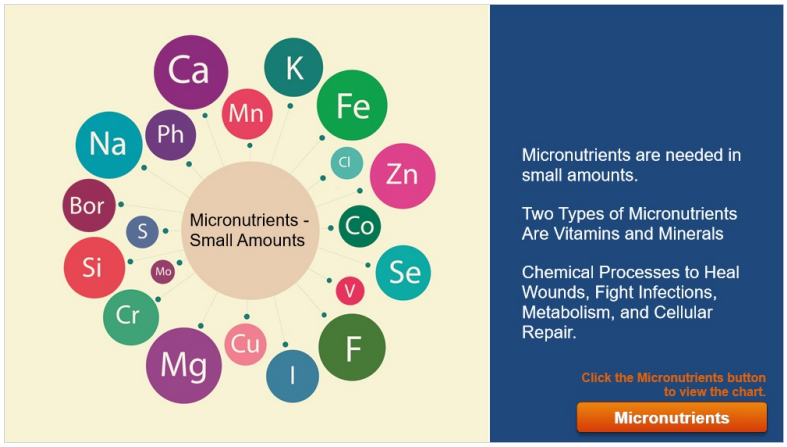
45-65% of daily calories should come from carbohydrates.

Between 20-35 percent of total calories are recommended to come from fat.

Protein is recommended to make up 10-35% of total calories.

Carbohydrates and protein have four calories per gram. Fat has nine calories per gram. Alcohol has seven calories per gram.

1.9 Micronutrients

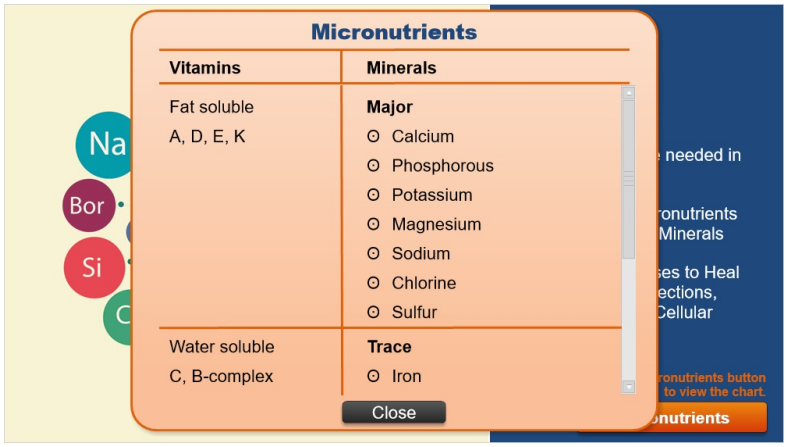


Notes:

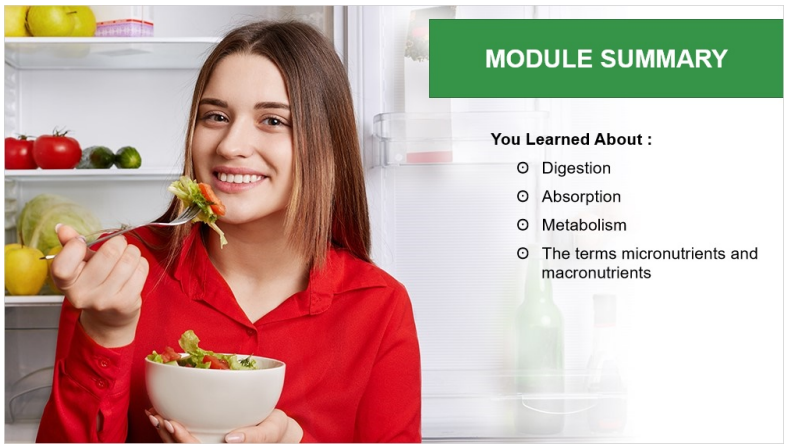
Micronutrients are needed in small amounts. Even though they don't contain any calories, they are still essential to health. The two types of micronutrients are vitamins and minerals. They are used in important chemical processes for wound healing, fighting infections, metabolism, and cellular repair.

Click the Micronutrients button to view a chart showing the essential micronutrients.

Micronutrients Chart (Slide Layer)



1.11 Module 1 Summary



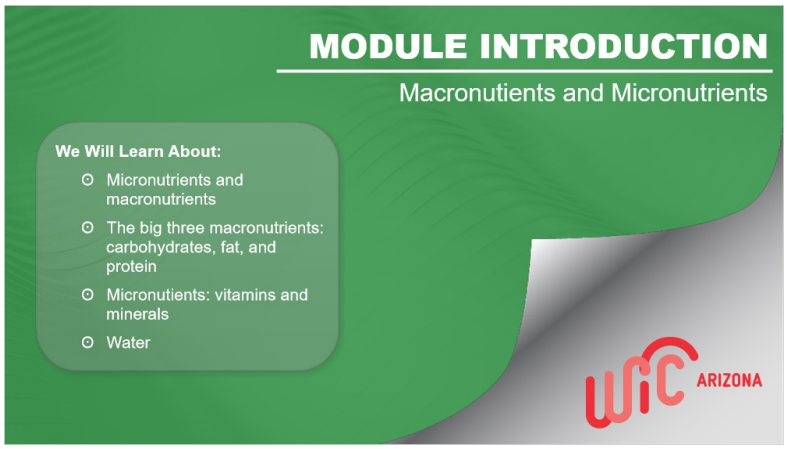
Notes:

In this module you learned about digestion, absorption, and metabolism. You were also introduced to the terms micronutrients, and macronutrients.

Click the next button to begin Module 2.

2. Module 2 - Macronutients and Micronutrients

2.1 Module 2 Introduction

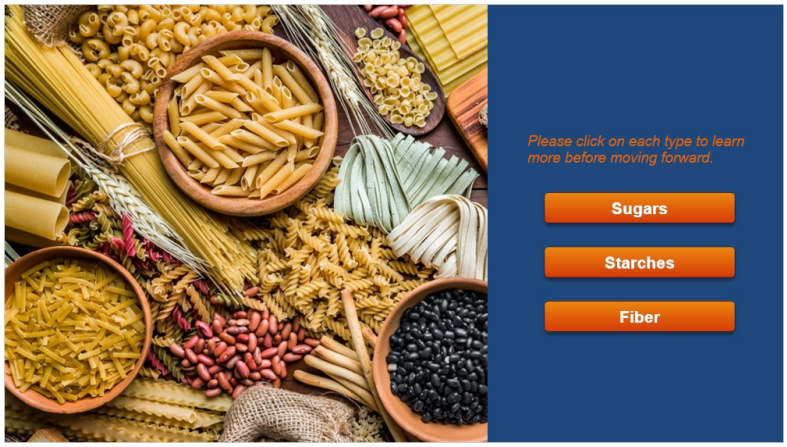


Notes:

Now that we're familiar with the terms "Micronutrients" and "Macronutrients" that we learned about in Module 1, we'll take a closer look at each in this module.

We'll begin with a closer look at the big three macronutrients: carbohydrates, fat, and protein. Then we'll look at the micronutients: vitamins and minerals. We'll end this module by taking a closer look at water.

2.2 Macronutrient – Carbohydrates Introduction

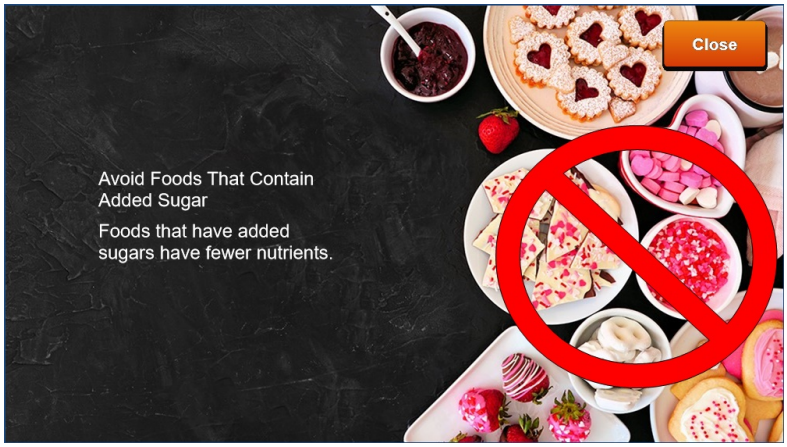


Notes:

Carbohydrates, or carbs, are the first category of macronutrients. They are found in many commonly eaten foods such as grains, fruits, dairy, and vegetables.

There are three types of carbs: sugars, starches, and fiber. Please click on each type to learn more before moving forward.

Sugars (Slide Layer)



Sugars

There are several different kinds of sugar. This apple contains fructose (also known as fruit sugar), this milk contains lactose (also known as milk sugar), and these chocolates contain sucrose (also known as table sugar).

No matter the sugar type, after the body digests and absorbs sugars, they are converted into glucose--the body's preferred energy source. Glucose is commonly referred to as blood sugar.

Some foods naturally contain sugars, such as apples and milk, while other foods contain added sugars such as chocolates. Although we just learned that both natural and added sugars are processed similarly within the body, it's still important to choose foods that contain natural sugar and avoid foods that contain added sugar. That's because many of the foods that contain added sugars, such as candy and baked goods, have been highly processed and usually contain fewer vitamins and minerals.

Starches (Slide Layer)

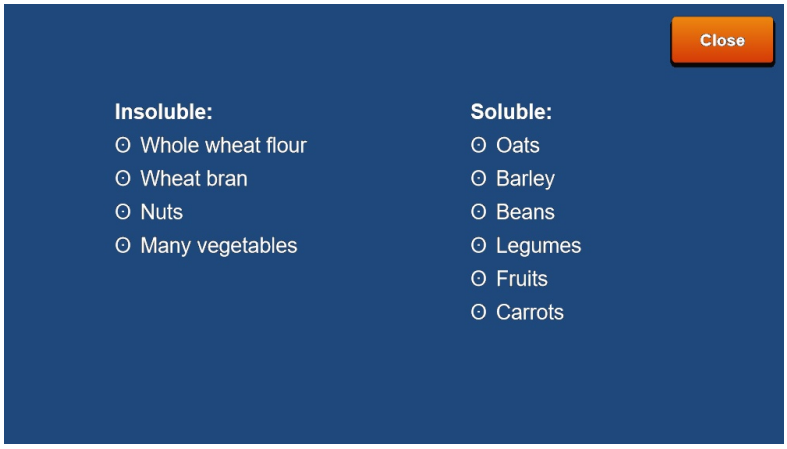
Starches

Starch is created by plants combining glucose molecules to store energy. During digestion, starch is broken down into glucose, which is then absorbed and used by cells throughout the body.

Wheat, rice, oats, and quinoa are grains containing starch.

Vegetables with starch include corn, beans, peas, potatoes, and yams.

Fiber (Slide Layer)



Fiber

Fiber is either insoluble or soluble, Insoluble doesn't dissolve in water; soluble does.

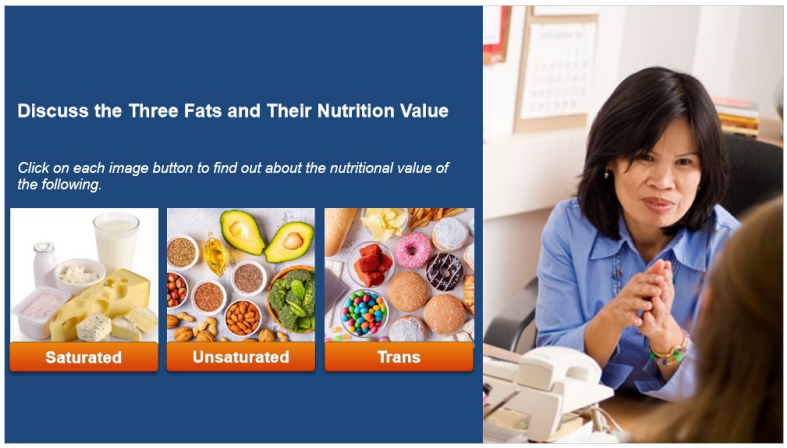
Our bodies don't have the enzymes for breaking down fiber into smaller nutrients for absorption to generate energy. So why is fiber important?

Insoluble fiber adds bulk to the stool making it easier for waste to move through the intestines. Soluble fiber dissolves to form a gel-like gummy material.

Both fiber types provide health benefits. Extra bulk from insoluble fiber reduces constipation and may help prevent diseases, such as colorectal cancer. Soluble fiber can help lower blood cholesterol and blood sugar levels.

Here are examples of insoluble and soluble fiber foods.

2.5 Macronutrient - Fats



Notes:

The second macronutrient we'll discuss is fat. Our bodies need fat to perform essential functions such as absorbing vitamins A, D, E, and K. Fats are used to make the linings of cell walls within the body and also what give many foods their flavor and aroma.

You may have heard fats described as good or bad. That's probably because there are different types of fats, and their nutritional value varies.

Remember that fats contain more than twice as many calories as carbs and protein. It's also important to recognize that regardless of where the fat comes from, it will still have the same number of calories. So, for example, the healthy fat in olive oil will have the same 9 calories per gram as the unhealthy fat in donuts.

However, since carbs are the body's preferred source of glucose, if you consume more calories than your body needs, your body will not immediately use the calories in fat for energy. Instead it will store extra fat in fat cells which can be used later to create the glucose the body needs for energy.

When working with participants, you'll want to be able to discuss three kinds of fats.

Click on each image button to find out about the nutritional value of saturated, unsaturated, and trans fat.

Saturated Fats (Slide Layer)

Saturated Fats

Saturated fats are typically solid at room temperature and usually come from animal sources like red meat, whole milk, cheese, butter, and cream.

They can raise your “bad” cholesterol levels and increase your chances of developing heart disease.

Unsaturated Fats (Slide Layer)

Unsaturated Fats

Unsaturated fats are usually liquid at room temperature and usually come from plant sources such as avocados, olives, peanuts, vegetables oils (e.g. sunflower, olive, corn), nuts and seeds.

Unsaturated fats can be either monounsaturated or polyunsaturated. Both kinds have several health benefits and should ideally make up the majority of the fats that are

consumed.

Omega-3 fat is a specific kind of polyunsaturated fat that gets a lot of attention because of its health benefits. Benefits include reducing cardiovascular disease risk and omega-3's role in brain and eye development in infants. Therefore, it's commonly recommended that pregnant and breastfeeding women supplement their diet with 300mg of Omega-3 fatty acids daily.

The main sources of Omega-3s are cold water fish, like salmon, albacore tuna, and mackerel. Plant based foods high in Omega-3 include flaxseed, soybeans, walnuts, and canola oil.

Trans Fat (Slide Layer)

Trans Fat

Unlike saturated and unsaturated fats, trans fats are rarely found in nature. Instead they are artificially created by adding hydrogen to liquid vegetable oils. This "hydrogenation" process makes the oils solid at room temperature to increase the shelf life of the products they're added to.

Trans fats are added to many highly processed foods such as fast food, frozen entrees, and store-bought baked goods such as cookies, crackers, and pastries.

Because they increase the risk of cardiovascular disease, trans fats are to be consumed as little as possible.

Is there an easy way to identify trans fats? Yes, check the ingredient list for "partially hydrogenated oils".

2.7 Macronutrient - Protein

Notes:

In addition to carbohydrates and fats, protein is the last macronutrient to discuss. What does protein do for the body? When digested it is broken into amino acids. Then, when absorbed, those amino acids are rebuilt into a variety of new proteins.

Those proteins do great things for our bodies such as:

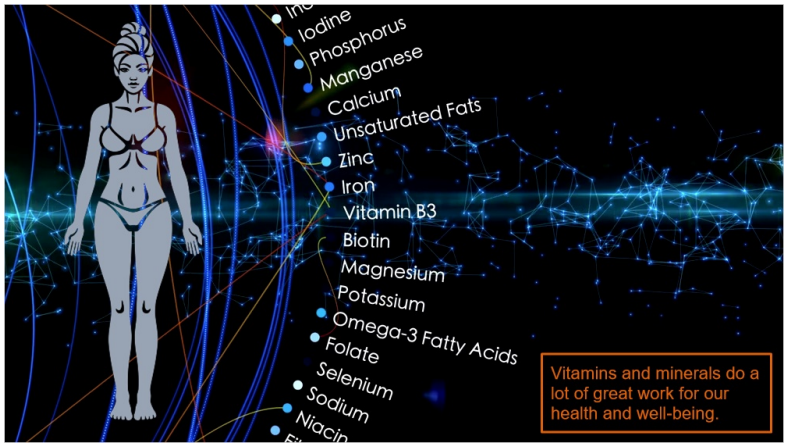
- Build and maintain body tissue
- Produce enzymes and hormones
- Repair cells, and
- Transport nutrients and oxygen

Although not the body's preferred energy source, protein can also be broken down and used for energy production when not enough carbohydrates or fats are consumed.

More protein is needed during rapid-growth periods. Thinking about our participants - who needs more protein? Children and pregnant or breastfeeding women.

What are the best sources of protein for healthy nutrition? There are plant and animal sources. Plant sources include nuts, seed, beans, tofu, peas, and oats. Animal sources include red meat, poultry, eggs, seafood, milk, yogurt, cheese, and soy milk.

2.9 Vitamins and Minerals Introduction



Notes:

Now let's talk about the two types of micronutrients, vitamins and minerals. Vitamins and minerals are each needed in smaller amounts, that's why they're referred to as micronutrients.

Have you heard of some vitamins and minerals referred to as essential, or maybe seen "essential" on food labels or packaging? Essential means they must be consumed through the food we eat because they aren't made by the body.

Vitamins and minerals do a lot of great work for our health and well-being. For example, they provide electrolytes to transmit electrical currents, and antioxidants to boost our immune systems and slow aging.

2.10 Vitamins

Notes:

How many vitamins do our bodies need to remain healthy? We need thirteen essential vitamins. They are especially powerful for growth and developmental needs.

Vitamins are either fat soluble or water soluble. Soluble refers to how the body absorbs and stores vitamins.

Fat-soluble vitamins don't dissolve in water and are much better absorbed into our bodies when eaten with fat. They are stored in the liver and fat tissue when not in use. It's important to note that caution should be taken among those supplementing with fat-soluble vitamins. Since they can be stored in large quantities within the body, they can actually be toxic if taken in excess.

Water soluble vitamins dissolve in water and are not stored in large quantities in the body.

2.11 Vitamin Supplements

Notes:

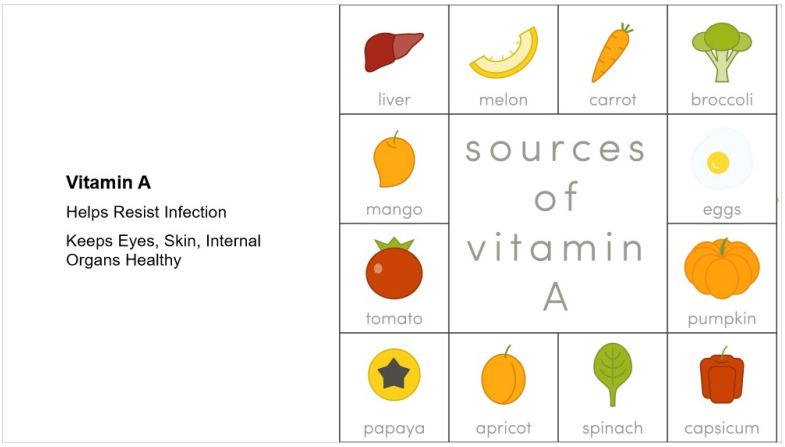
While it may seem like a good idea to take vitamin supplements, a well-balanced diet usually provides all the vitamins most people need to stay healthy.

However, specific vitamin supplements are often recommended for the follow groups:

- Women during childbearing years
- Pregnant women
- Breastfeeding women
- Breastfeeding infants
- Women or children recovering from illness, and
- Women on very low calorie or restrictive diets

Next, we'll take a look at a few vitamins that have been identified as being low in the diets of many WIC participants.

2.12 Vitamins A

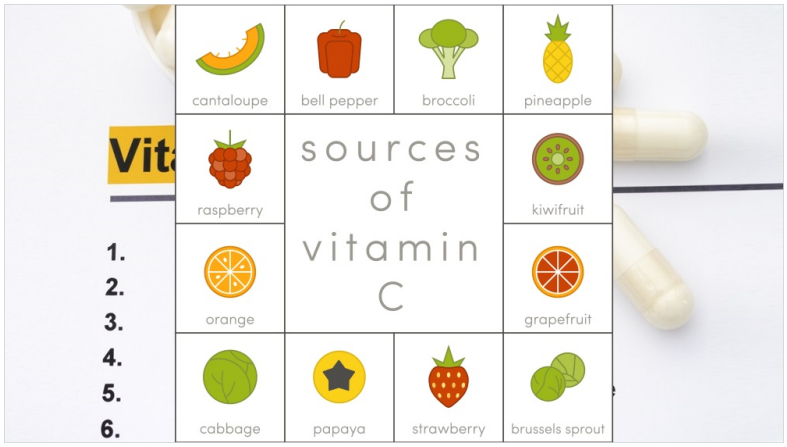


Notes:

Vitamin A is a fat-soluble vitamin that helps us resist infection, and keeps our eyes, skin, and internal organs healthy.

Did you know all these foods are sources of vitamin A?

2.13 Vitamin C



Notes:

Vitamin C is a water soluble vitamin that boosts immunity, protects memory, helps prevent iron deficiency by increasing the absorption of iron, may reduce risk of heart disease and other chronic disease, helps with the healing of wounds and broken bones.

Did you know all these foods are sources of vitamins C?

2.14 Vitamin - D

Notes:

Vitamin D is fat soluble vitamin that has benefits including strong bones, controlling inflammation, and boosting the immune system.

There are very few foods that naturally contain large amounts of vitamin D. Certain types of fish, liver, and eggs are good sources, but for most of these foods, you'd have to eat large amounts just to get the daily recommended amount.

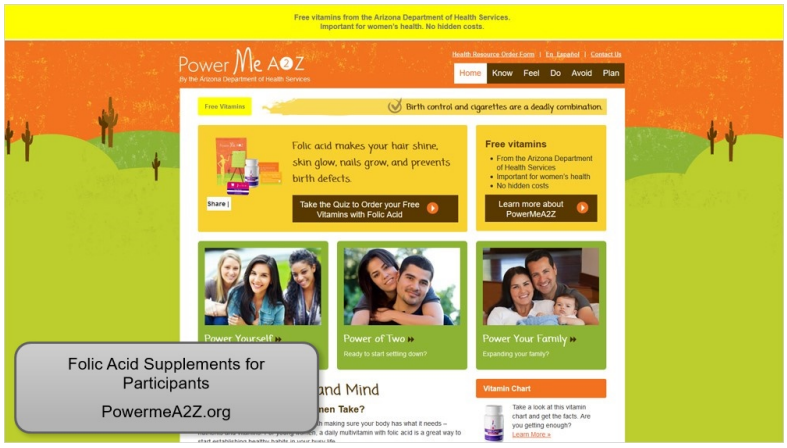
Fortunately, items like dairy foods, orange juice, and cereal are often fortified with vitamin D. Fortification is the process by which a specific vitamin or mineral is added to a food that does not naturally contain it. These fortified foods provide most of the vitamin D in the American diet.

Our bodies can also synthesize vitamin D using the suns UVA and UVB rays. However, there are some factors that prevent this Vitamin D synthesis. For example, the farther north you live above the equator, the colder seasons (especially winter), cloudy weather, pollution, having dark skin, and using sunblock can all reduce the UVA and UVB rays absorbed through the skin and hinder vitamin D synthesis.

With these factors in mind, it's easy to think that it's important to spend a lot of time in the sun, but be careful, since too much sun exposure can increase the risk of skin cancer. In general, it only takes about 10-15 minutes of unprotected sun exposure in order to synthesize adequate amounts of Vitamin D.

Supplements are useful for getting adequate amounts of vitamin D for people not getting enough from food or sun exposure.

2.15 Folate and Folic Acid



Notes:

Folate, and its synthetic version, folic acid, are used to make new cells, form hemoglobin, and protect against heart disease.

Folate is naturally present in green leafy vegetables, oranges, orange juice, dried beans, peanuts, and avocados.

Manufacturers are also required to fortify enriched grain products with folic acid. When women of childbearing age consume these folic acid-fortified products, it greatly reduces the risk of their babies developing neural tube defects (NTDs).

Babies born with NTDs, such as spina bifida, have brain and spinal cord deformations due to inadequate amounts of folate needed to develop the neural tube which surrounds the spinal cord.

Arizona has an excellent resource for women to receive free folic acid supplements. You can refer women that you see in WIC to PowermeA2Z.org where they can get free multivitamins with folic acid.

2.18 Minerals

Notes:

Just like vitamins, there are a lot of minerals needed for good health. Minerals are used by the body in all the following ways:

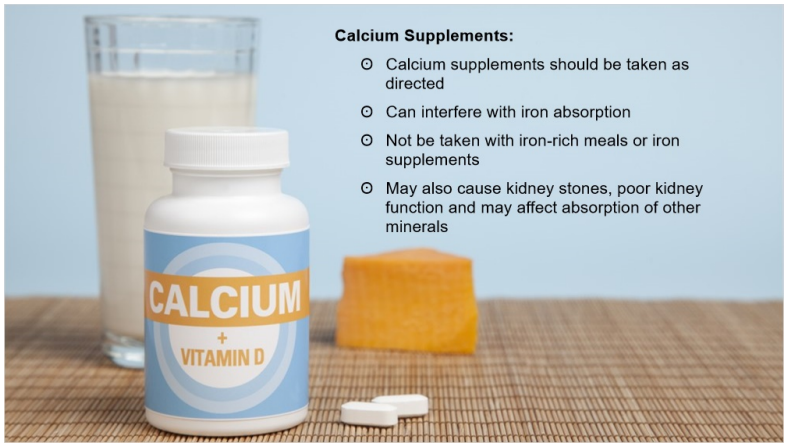
- Part of the structure of red blood cells, bones, teeth, nails, and muscle
- Regulate chemical reactions like maintaining water levels inside and outside cells
- Regulate energy release from food
- Regulate heartbeat
- Help nerves respond normally, and
- Promote blood clotting in wounds

Good stuff, right? Another great thing about minerals is that they aren't destroyed by heat, so cooking doesn't affect their content.

Like other nutrients, most people can get needed minerals from consuming a well-balanced diet.

Next, we'll take a look at a few minerals that have been identified as being low in the diets of many WIC participants: calcium, iron and fluoride. Then we'll take a look at sodium which is oftentimes too high in the diets of WIC participants.

2.19 Minerals - Calcium



Notes:

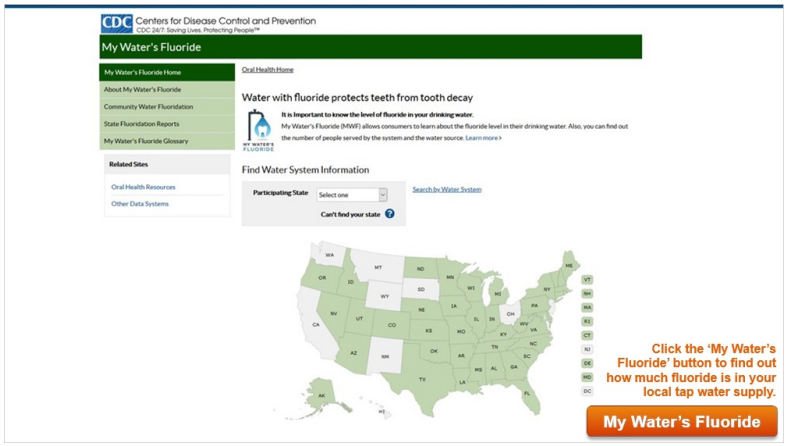
When you think of calcium, you probably think of bones. Calcium is indeed key to forming and maintaining bones. It's also an electrolyte necessary for muscles to contract.

Dairy products are some of the best sources of calcium. If consuming dairy is an issue for any families you speak with, it's important to note that calcium is also naturally present in beans, green leafy vegetables, nuts, seeds, as well as calcium-fortified foods such as soy milk, firm tofu, and orange juice.

Not getting enough calcium can interfere with growth and affect bone density. People who could be at risk for calcium deficiency are those with dairy allergies, lactose intolerance, or following a vegan diet. Also, those limiting dairy due to concerns about calories from fat and weight gain may put themselves at risk for calcium deficiency.

Physicians may recommend calcium supplements for individuals who don't get enough calcium in their diets. Calcium supplements should be taken as directed since excess calcium supplements can interfere with iron absorption. For this reason, they should not be taken with iron-rich meals or iron supplements. Excess calcium supplements may also cause kidney stones, poor kidney function and may affect absorption of other minerals.

2.20 Minerals - Fluoride



Notes:

Does fluoride make you think of toothpaste or water? Fluoride helps strengthen tooth enamel and protects teeth from decay.

Water is the main source of dietary fluoride for many people. It may be naturally present in water or added to the community water supply.

Fluoride levels may vary from one area to another. Click the 'My Water's Fluoride' button to find out how much fluoride is in your local tap water supply. Those without adequate fluoride in their local tap water supply should speak with their health care provider or dentist about fluoride supplements.

2.21 Minerals - Iron

Notes:

Iron is a trace mineral that helps prevent and fight infections, promotes brain development, and is part of hemoglobin, a molecule that carries oxygen to the body's cells.

There are two forms of iron in food. Heme iron comes from animal products and is found in meats like chicken, beef, pork and seafood. Non-heme iron comes from plants and is found in beans, vegetables, tofu, raisins, apricots, prunes, and fortified cereals.

Inadequate iron consumption can lead to a condition called iron deficiency anemia where the body isn't able to make enough healthy red blood cells. This condition is even more common among children and pregnant women going through rapid growth since they need extra iron due to increases in red blood cell volume.

Iron deficiency anemia can also result from the following diets:

- Diets high in calcium foods that negatively affect iron absorption (e.g. milk, yogurt, cheese, green leafy vegetables, etc.), as well as antacids and calcium supplements.
- Diets high in low-iron foods such as chips, cookies, soft drinks, and candies.
- Diets high in foods and beverages such as coffee, tea, and chocolate. And.
- Calorie-restricted diets since they may not contain enough iron-rich foods.

Now let's take a look as some ways to improve iron intake.

Heme iron from animal products is more easily absorbed than non-heme iron.

Iron absorption can be increased by consuming foods high in iron along with foods high in Vitamin C such as citrus foods.

Taking iron supplements as prescribed by a doctor may also be necessary for those not able to get enough iron from their diet.

2.22 Sodium

Notes:

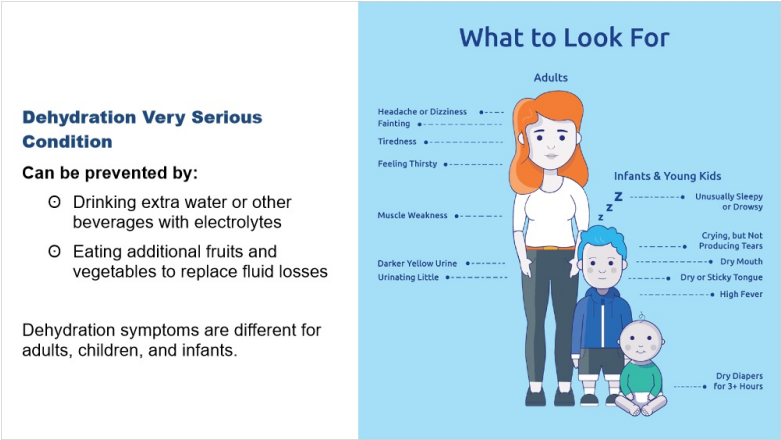
Sodium's is an essential electrolyte needed for electrical transmissions in the body.

Where does most of the salt in Americans' diets come from? Some sodium is added to foods using a saltshaker, but more than 75 percent, comes from sodium added to food during manufacturing and processing.

Although the body requires more sodium than most other minerals, many Americans get too much sodium in their diets. The health challenge with high sodium intake is that it increases the risk for high blood pressure.

The most common type of sodium consumed is table salt. Are other salts such as kosher, sea, and Himalayan healthier? No, they may taste different, but they all have the same levels of sodium.

2.24 Water



Notes:

So far, we've looked at 5 types of nutrients: Carbs, Fat, Protein, Vitamins, and Minerals. The 6th and final nutrient we'll examine is water.

It does so much for the body besides quenching our thirst. It is very important for regulating body temperature, aiding digestion, helping remove waste, and being the main component of blood.

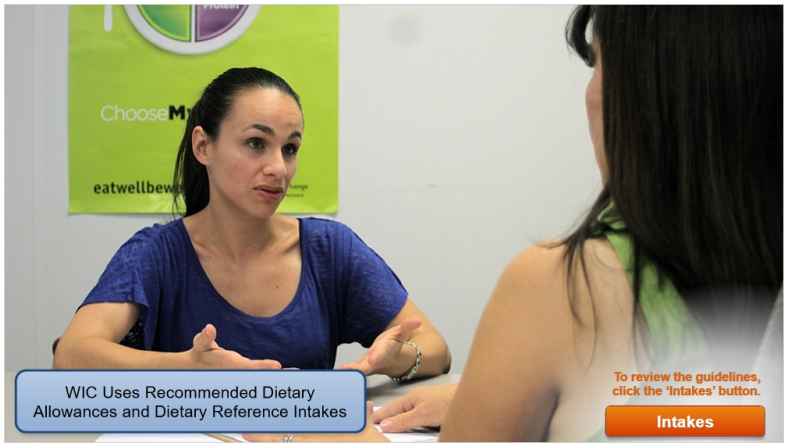
Because our bodies constantly use water for these essential functions, we must replenish our supply by consuming it daily.

Of course, our water intake comes from drinking water, but it can also come from drinking other beverages and eating solid foods high in water including fruits and vegetables.
Some factors cause people to need more water including pregnancy, aging, stress, high-fiber diets, illness, exposure to extreme temperatures, and strenuous exercise.

Dehydration is a very serious condition that occurs when the body loses so much water that bodily functions are affected. Dehydration can be prevented by drinking extra water or other beverages with electrolytes and eating additional fruits and vegetables to replace fluid losses.

Dehydration symptoms are different for adults, children, and infants.

2.25 Nutrients – How Much?



Notes:

Now that we've learned about the six categories of nutrients, how much of each do we need? The quantities vary depending on age, gender, body size, and medical needs.

To help you, the Recommended Dietary Allowances and the Dietary Reference Intakes were created to give people guidelines for the amount of daily nutrients needed based on several factors. To review the guidelines, click the Intakes button.

2.27 Module 2 Summary

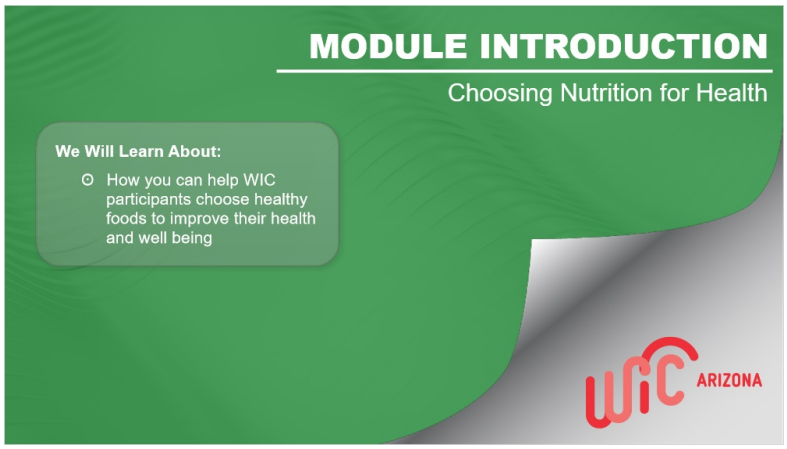
Notes:

In this module, you learned all about the Macronutrients (Carbohydrate, Fat, and Protein). You also learned about some vitamins important for WIC participants (Vitamin A, Vitamin C, Folate, and Vitamin D) as well as some minerals important for WIC participants (Calcium, Flouride, Iron, and Sodium).

Click the next button to begin Module 3.

3. Module 3 - Choosing Nutrition for Health

3.1 Module 3 Introduction



Notes:

So far, we've mainly focused on specific nutrients, but of course we don't eat nutrients. We eat food. In this module, we'll learn about how you can help WIC participants choose healthy foods to improve their health and well being.

3.2 Choosing Nutrition for Health

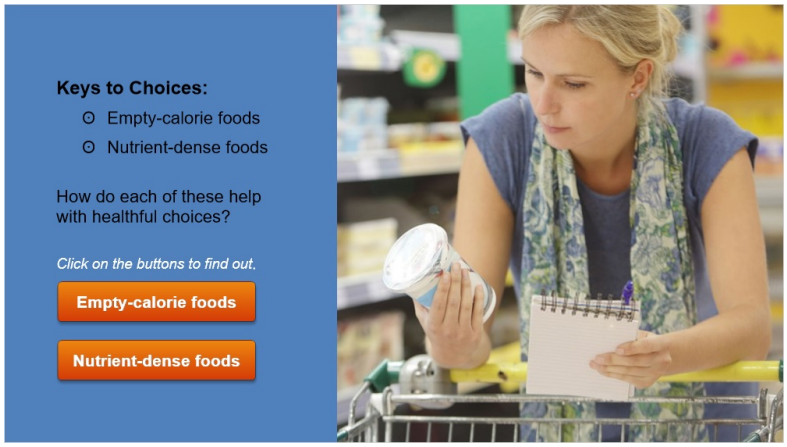
Notes:

Although making healthy food choices may sound simple, our food environment isn't simple at all. Food and drink temptations are everywhere: advertising, fast food, convenience foods, grocery stores and probably even our homes.

We can offer information to participants about how their food and drink choices affect their health long-term.

We can discuss how healthy food choices can help prevent diseases such as diabetes, heart disease, obesity, high blood pressure, certain cancers, and osteoporosis.

3.3 Making Healthy Food Choices



Notes:

Before we look at some recommended dietary guidelines, lets familiarize ourselves with two terms, empty-calorie foods and nutrient-dense foods.

How do each of these help with healthful choices? Click on the buttons to find out.

Empty-calorie foods (Slide Layer)

Empty Calorie Foods

Empty-calorie foods are called empty because they lack beneficial micronutrients, not because they lack calories. They are usually loaded with calories. They are often highly processed with added sugars or fat. Examples are cookies, cakes, soda, and ice cream.

It is recommended to consume these foods sparingly.

Nutrient-dense foods (Slide Layer)

Nutrient Dense Foods

Nutrient-dense foods have significant amounts of micronutrients. These foods are usually minimally processed. Examples are whole grain foods with whole grains as the main ingredient, and fresh fruits and vegetables.

These foods are recommended to make up the majority of our diet.

3.4 Dietary Guidelines

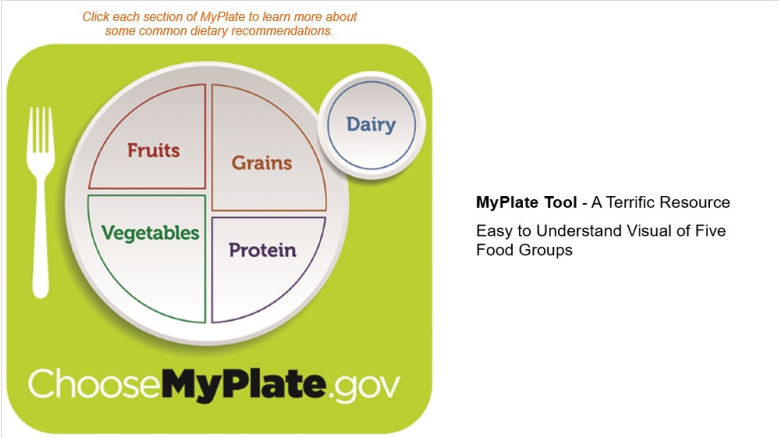
Notes:

Understanding the difference between empty-calorie foods and calorie-dense foods is just the beginning when it comes to nutrition recommendations. It's important to remember that nutrition science is still a new field and there is still a lot of emerging research regarding which foods are the healthiest. So how do we know what to tell WIC participants?

Every five years the U.S. Department of Health and Human Services and the U.S. Department of Agriculture review the most current nutrition research and publish The Dietary Guidelines for Americans. This document serves as the basis for many of the nutrition recommendations used by schools, hospitals, and public health programs such as WIC.

Please click the "Dietary Guidelines" button if you'd like to review these recommendations in detail.

3.5 Dietary Guidelines - MyPlate

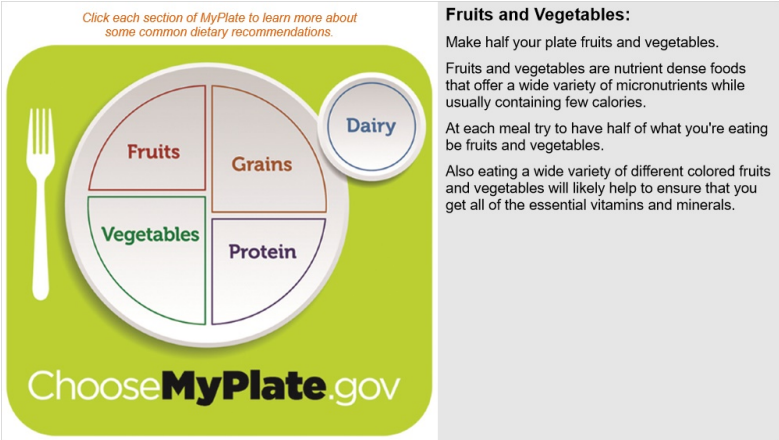


Notes:

A terrific resource to use with participants is MyPlate, which is also based on the Dietary Guidelines for Americans. Information is in an easy to understand visual of a plate with the five food groups that are building blocks for a healthy diet.

Click each section of MyPlate to learn more about some common dietary recommendations.

Fruits and Veges (Slide Layer)

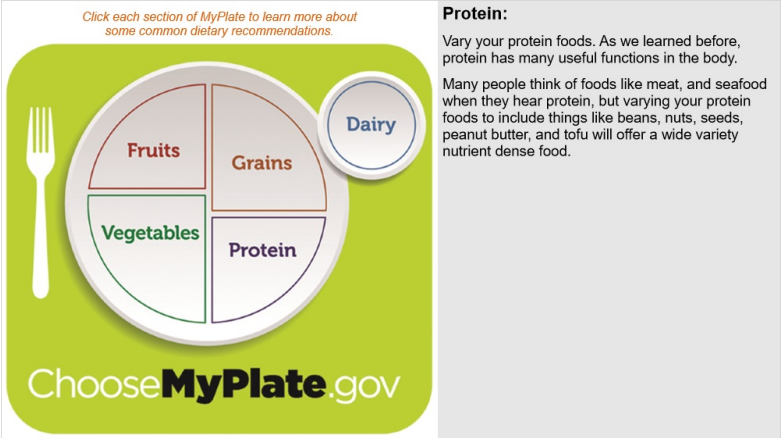


Fruits and Vegetables:

Make half your plate fruits and vegetables. - Fruits and vegetables are nutrient dense foods that offer a wide variety of micronutrients while usually containing few calories. At

each meal try to have half of what you're eating be fruits and vegetables. Also eating a wide variety of different colored fruits and vegetables will likely help to ensure that you get all of the essential vitamins and minerals.

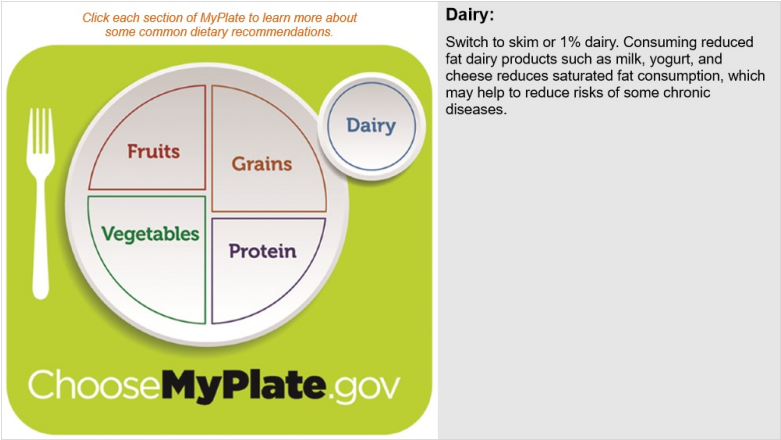
Protein (Slide Layer)



Protein:

Vary your protein foods. As we learned before, protein has many useful functions in the body. Many people think of foods like meat, and seafood when they hear protein, but varying your protein foods to include things like beans, nuts, seeds, peanut butter, and tofu will offer a wide variety nutrient dense food.

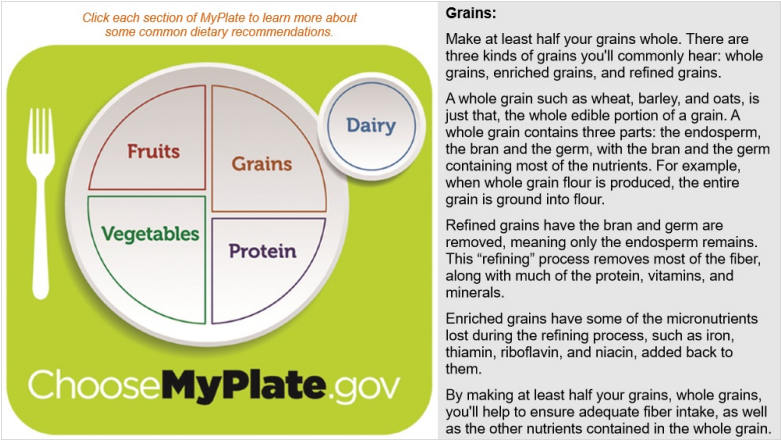
Dairy (Slide Layer)



Dairy:

Switch to skim or 1% dairy. Consuming reduced fat dairy products such as milk, yogurt, and cheese reduces saturated fat consumption, which may help to reduce risks of some chronic diseases.

Grains (Slide Layer)



Grains:

Make at least half your grains whole. There are three kinds of grains you'll commonly hear: whole grains, enriched grains, and refined grains.

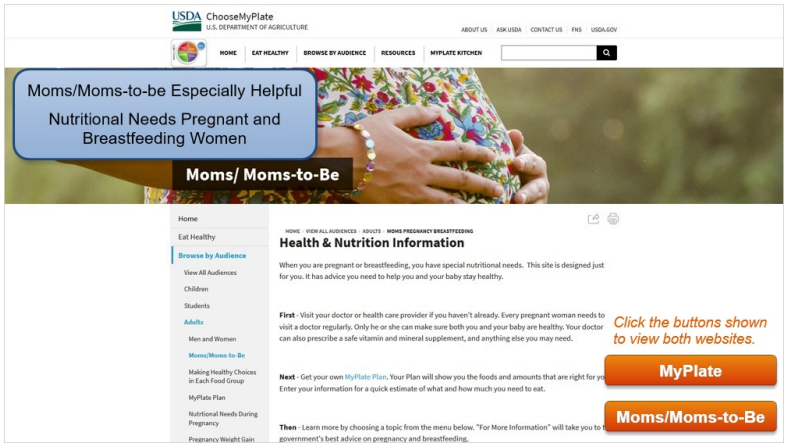
A whole grain such as wheat, barley, and oats, is just that, the whole edible portion of a grain. A whole grain contains three parts: the endosperm, the bran and the germ, with the bran and the germ containing most of the nutrients. For example, when whole grain flour is produced, the entire grain is ground into flour.

Refined grains have the bran and germ are removed, meaning only the endosperm remains. This “refining” process removes most of the fiber, along with much of the protein, vitamins, and minerals.

Enriched grains have some of the micronutrients lost during the refining process, such as iron, thiamin, riboflavin, and niacin, added back to them.

By making at least half your grains, whole grains, you'll help to ensure adequate fiber intake, as well as the other nutrients contained in the whole grain.

3.6 Dietary Guidelines – MyPlate Website



Notes:

On the ChooseMyPlate.gov website, you'll find additional recommendations and resources useful in working with WIC participants.

Spend time getting familiar with the website so you can make the most of what it has to offer in our work with participants.

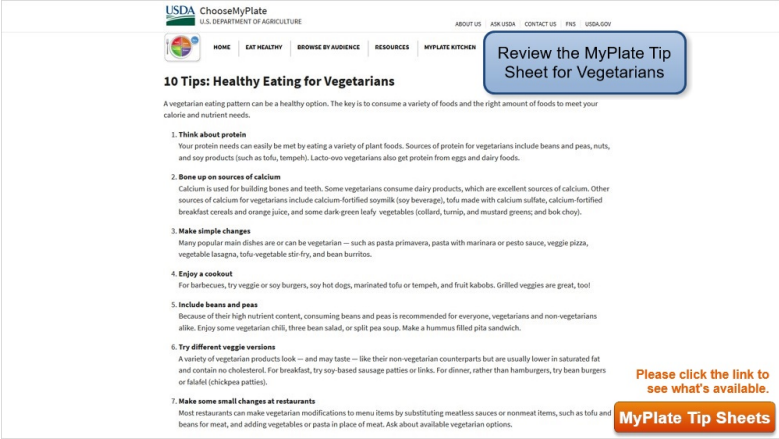
Notice there is a MyPlate app we can recommend to participants so they can have easy access to information if they have smartphones.

A section on the website that is especially helpful is Moms/Moms-to-be. It has resources about nutritional needs of pregnant and breastfeeding women.

Be sure and share it with participants and let them know they can find information for: daily food plans, dietary supplements, special needs such as medical conditions and allergies, food safety, and reliable information sources.

Click the buttons shown to view both websites.

3.7 Dietary Guidelines – MyPlate, Continued



Notes:

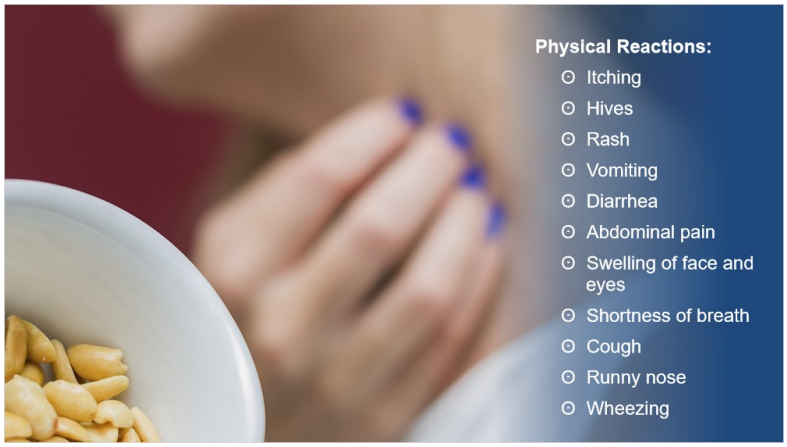
MyPlate can also help vegetarians ensure they're getting all of the essential vitamins and minerals. There are five types of vegetarian diets and each of them restricts certain foods such as diary, eggs, seafood, poultry, and meat

It's important that vegetarians focus on nutrients such as protein, iron, calcium, zinc, and vitamin B12 since they are found in foods commonly restricted by vegetarians. Well-balanced vegetarian diets are safe and provide needed nutrients during pregnancy, breastfeeding, infancy, and childhood.

Review the MyPlate tip sheet for vegetarians seen here. It can also be found in the resources section of this course.

In addition, the tips for pregnant moms and healthy eating for vegetarians, MyPlate has many other materials that you are able to print and provide with participants. Please click the link to see what's available.

3.9 Food Allergies



Notes:

It's important to recognize that not all people can eat foods from all of the food groups. For example, those with food allergies and food intolerances need to avoid or limit certain foods. Let's first look at food allergies.

Food allergies are the body's immune system reacting to a specific food protein.

Eight foods cause 90% of allergic reactions. They are: wheat, fish, dairy, eggs, peanuts, soy, tree nuts (such as walnuts, almonds, or pecans), and shellfish. People with food allergies often need to pay attention to ingredient lists to avoid eating or drinking products with allergens.

Reactions can be mild to life threatening. Shown here are many possible physical reactions.

3.10 Food Intolerance

Notes:

Food intolerances are different than food allergies. Food intolerances don't result in an immune response but do often make digestion of foods more difficult.

Although food intolerances are not life threatening, there can be a lot of physical discomfort such as abdominal pain, gas, bloating and diarrhea.

A very common food intolerance is lactose intolerance where the body has difficulty digesting lactose, which is the type of sugar found in dairy foods.

Unlike those with food allergies, those with a food intolerance can oftentimes still consume a small amount of the food without experiencing symptoms.

3.11 Food Labels

Notes:

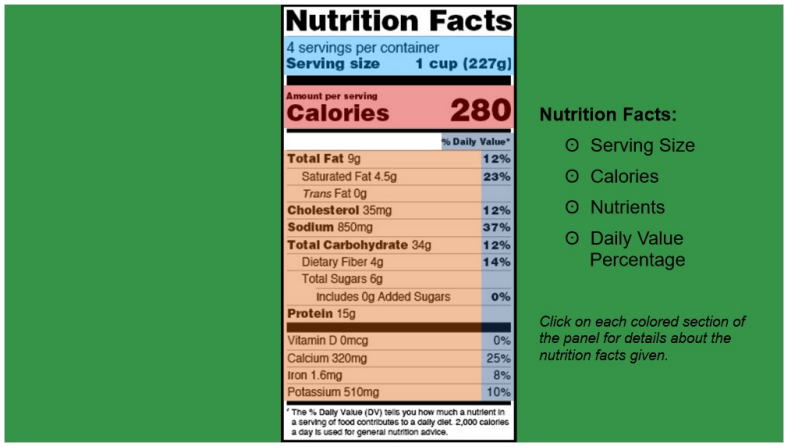
Where are we most likely to see information about the ingredients and nutrients in what we eat or drink? On food labels.

Understanding food labels and what they tell us about nutritional content helps with educating participants about nutritional value and healthy eating.

There are three types of food labels to pay attention to for nutrition information. The Nutrition Facts Panel, Ingredient List and Front Panel each packs a lot of information into a small space.

Next, we will find out how each label is useful.

3.12 Nutrition Facts Panel

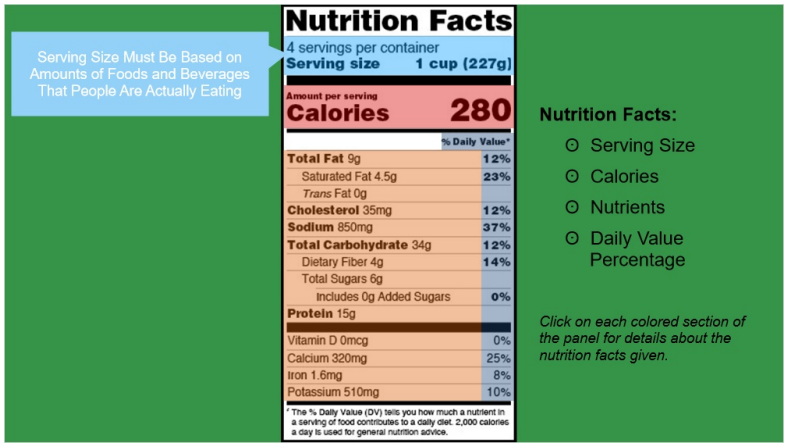


Notes:

The Nutrition Facts Panel gives information about four things: serving size, calories, nutrients, and daily value percentages.

Click on each colored section of the panel for details about the nutrition facts given.

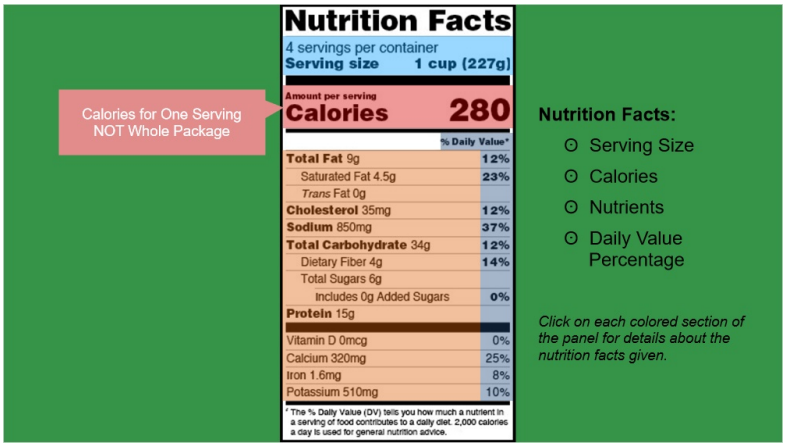
Serving Size (Slide Layer)



Serving Size

Serving Size is the amount of food typically eaten in one sitting for people four years old or older. By law, serving sizes must be based on amounts of foods and beverages that people are actually eating, not what they should be eating. This section also lists the number of servings within each container.

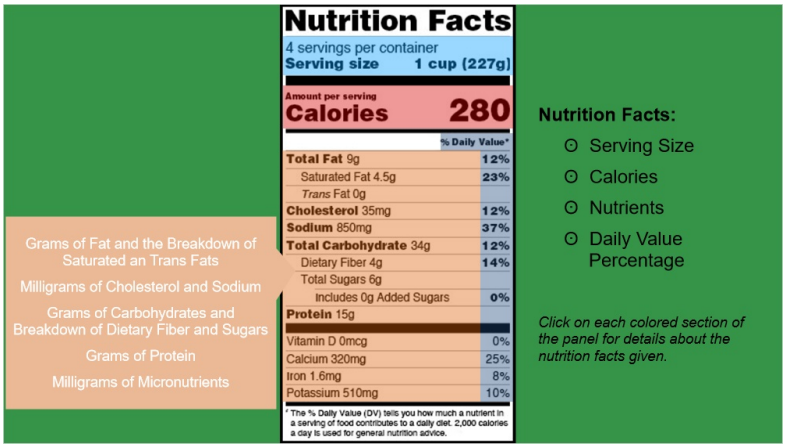
Calories (Slide Layer)



Calories

Calories refers to the calories in one serving, NOT the whole package.

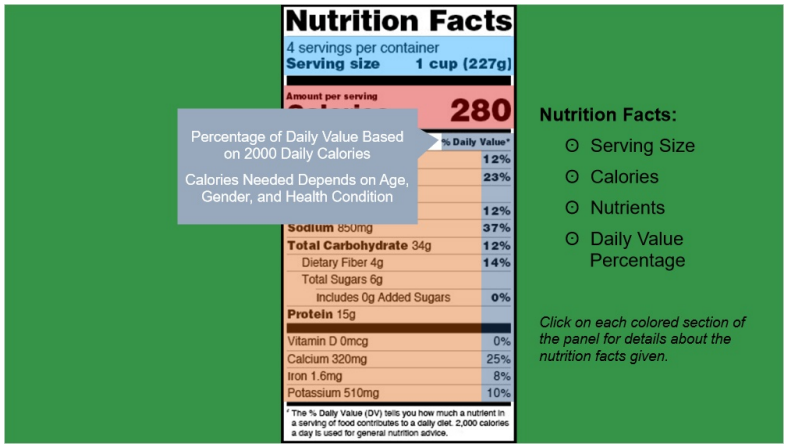
Total Grams (Slide Layer)



Total Grams

The label first lists total grams of fat and indented below, the breakdown of grams of fat from saturated, and trans fats. Next, it lists milligrams of cholesterol and sodium. Then total grams of carbohydrates, and indented below, the breakdown of grams of dietary fiber and total sugars along with a further breakdown of the grams of sugar coming from added sugars. After that, grams of protein are listed. Finally, it lists milligrams of the key micronutrients Vitamin D, Calcium, Iron and Potassium.

Daily Value (Slide Layer)



Percent of Daily Value

Percent of daily value is based on the generally recommended 2000 daily calorie intake. Remember total calories best for someone depends on age, gender, and health condition.

3.13 Food and Drug Administration Resources

Notes:

There are two great Food and Drug Administration (FDA) resources for you to use in serving participants and to recommend to them.

The first is an interactive nutrition facts label.

The second is how to use and understand the nutrition facts label.

Links to both resources and more are in the Guidebook and Resources tab.

3.14 Ingredient List

Notes:

The ingredient list shows ingredients in order by weight, starting with the main ingredient.

For example, if a loaf of bread lists its first ingredient as “Whole Wheat Flour,', that means that this is the ingredient that is most present in the product.

Ingredient information can be helpful for people with food allergies or intolerances who need to avoid or limit specific ingredients.

Noticing ingredients also gives clues about how much processing has been done to produce the food product. For example, ingredients such as guar gum, high fructose corn syrup, Xanthan Gum, or Carrageenan indicate heavy processing. Consuming these ingredients should be limited.

3.15 Front Panel Nutrition Information and Nutrient Claims

Notes:

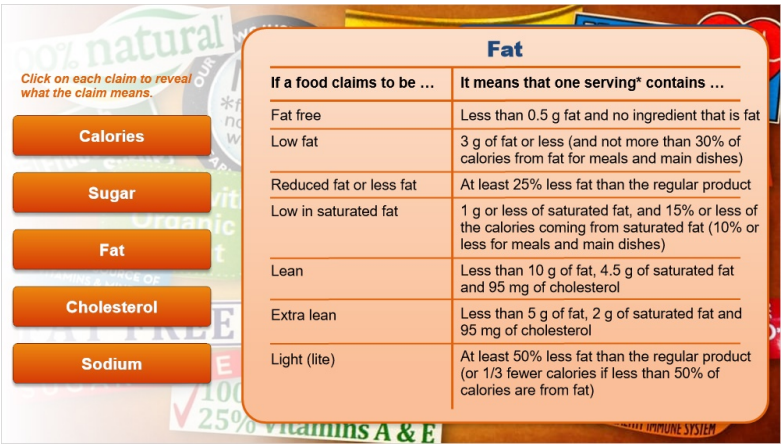
While it's important to know how to read and interpret the Nutrition Facts Label, it's also a good idea to notice what nutrition claims are made on the front of a food package.

You've probably seen labels with wording such as high fiber, low sodium, fat free, or contains no high fructose corn syrup.

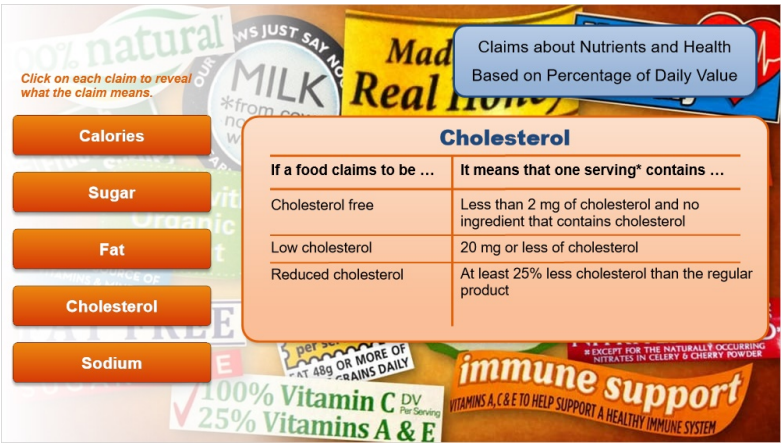
Many claims are made about nutrient content and health. Claims made are based on the recommended percentage of daily value.

For examples of claims about calories, sugar, fat, cholesterol, and sodium, click on each claim to reveal what the claim means.

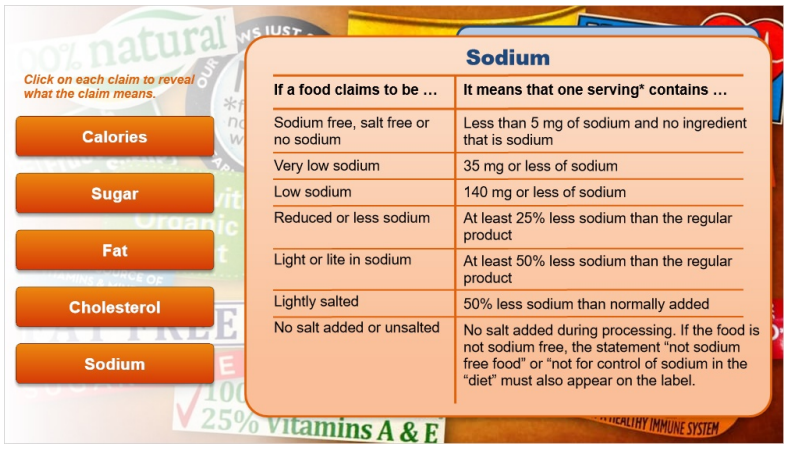
Fat (Slide Layer)



Cholesterol (Slide Layer)

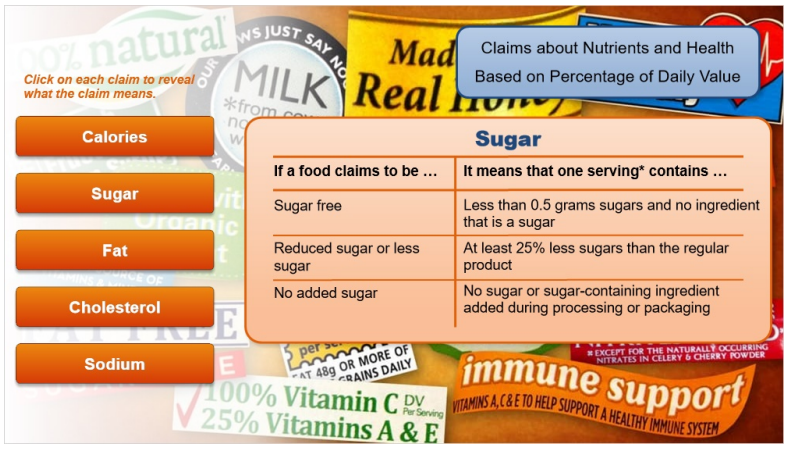


Sodium (Slide Layer)

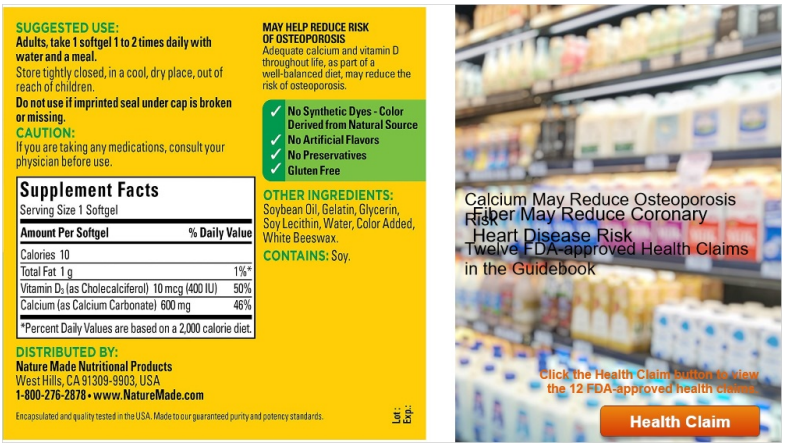


Calories (Slide Layer)

Sugar (Slide Layer)



3.16 Health Claims



Notes:

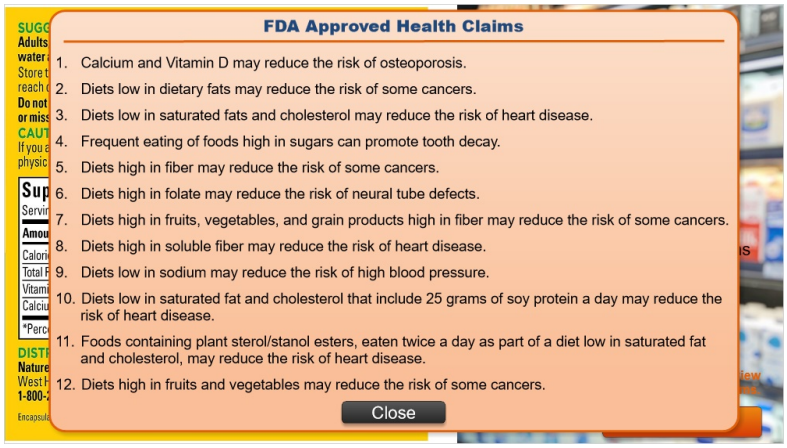
Besides nutrition, front panel food labels may also include health claims. What health benefits can be claimed? Health claims can be made if there is a scientific link between a nutrient and a health condition. The FDA approves the claims.

For example, manufacturers of whole-grain breads and cereals are allowed, by law, to claim that fiber may reduce coronary heart disease risk.

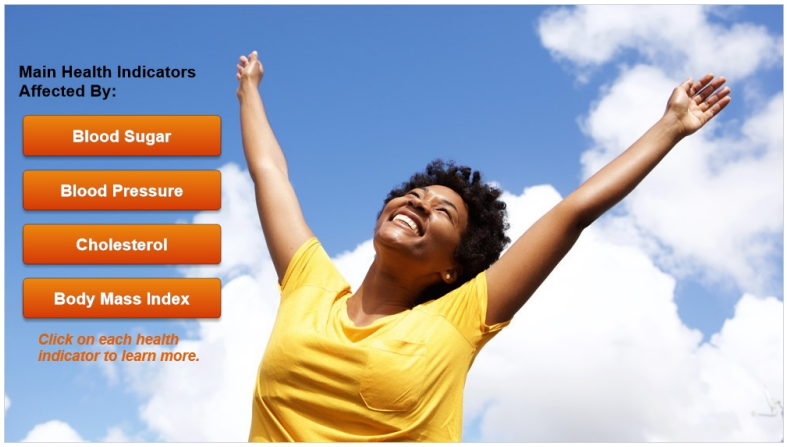
Calcium may reduce the risk of osteoporosis.

Click the Health Claim button to view the 12 FDA-approved health claims.

Claims (Slide Layer)



3.18 Health and Nutrition Indicators



Notes:

The foods that we eat can have a huge impact on our health. Some of the main health indicators affected by our diet are blood sugar, blood pressure, blood cholesterol, and Body Mass Index, or BMI.

Click on each health indicator to learn more.

Blood Sugar (Slide Layer)

Blood Sugar

Blood sugar indicates glucose level. Blood sugar levels rise and fall depending on how many carbohydrates are consumed. People are diagnosed with diabetes if their blood sugar doesn't fall normally after eating foods containing carbohydrates.

Cholesterol (Slide Layer)

Cholesterol levels indicate levels of high-density lipoproteins (HDLs) and low-density lipoproteins (LDLs).

HDL is referred to as good cholesterol because it can decrease the risk of heart disease.

LDL is referred to as bad cholesterol because it can increase the risk of heart disease.

Eating a diet high in saturated and trans fat can lead to increases in LDL and increase the risk of heart disease.

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HDL is referred to as good cholesterol because it can decrease the risk of heart disease.

LDL is referred to as bad cholesterol because it can increase the risk of heart disease.

Diets high in saturated and trans fat can lead to increases in LDL and increase the risk of heart disease.

Blood Presure (Slide Layer)

Blood pressure indicates how much pressure is exerted on arteries to move blood through the body. High blood pressure may indicate too much sodium in a person's diet.

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Body Mass (Slide Layer)

Body Mass Index, or BMI, is a measurement of an individual's weight in relation to their height. It is used as a tool to help screen for risk of chronic diseases since in most cases, the higher a person's BMI, the higher their risk of developing chronic diseases such as diabetes and heart disease.

BMI is commonly broken down into 4 categories: Underweight, Normal Weight, Overweight, and Obese.

Body Mass Index

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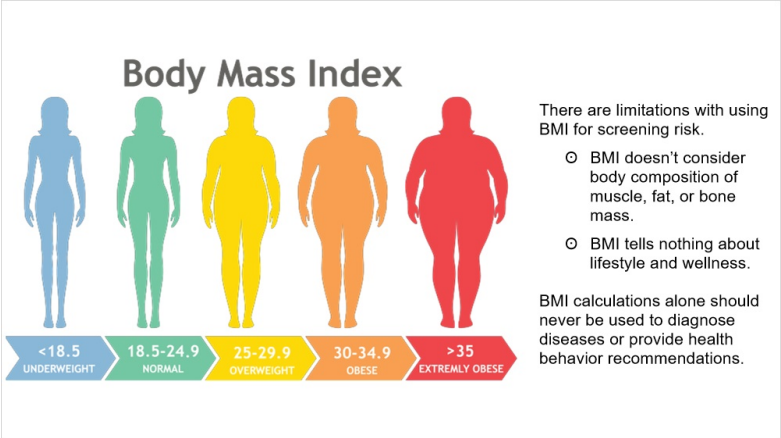
3.19 BMI Limitations

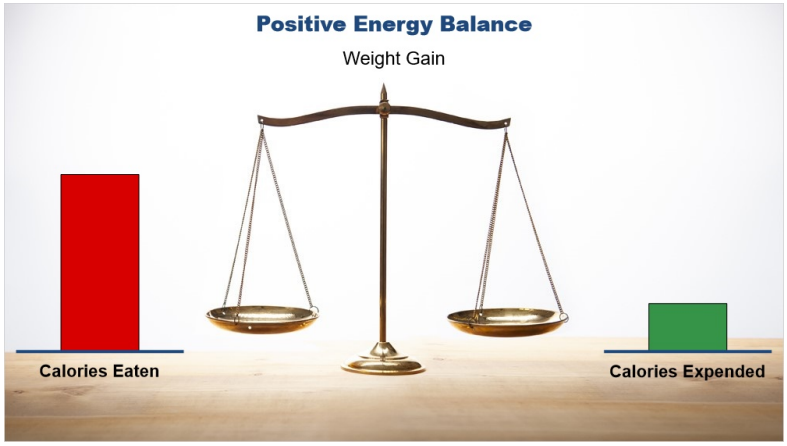


Notes:

There are limitations with using BMI for screening risk. Like what? BMI doesn't consider body composition of muscle, fat, or bone mass. People with a lot of muscle might be classified as overweight if relying only on BMI.

BMI measurements are also incapable of providing any information about an individual's lifestyle behaviors. For example, there are many people who are overweight or obese who have a well-balanced diet and exercise regularly. As a result, BMI calculations alone should never be used to diagnose diseases or provide health behavior recommendations. Additional health information such as blood pressure, cholesterol, blood sugar, and lifestyle behaviors should always be collected before providing health-behavior recommendations.

3.20 Energy Balance



Notes:

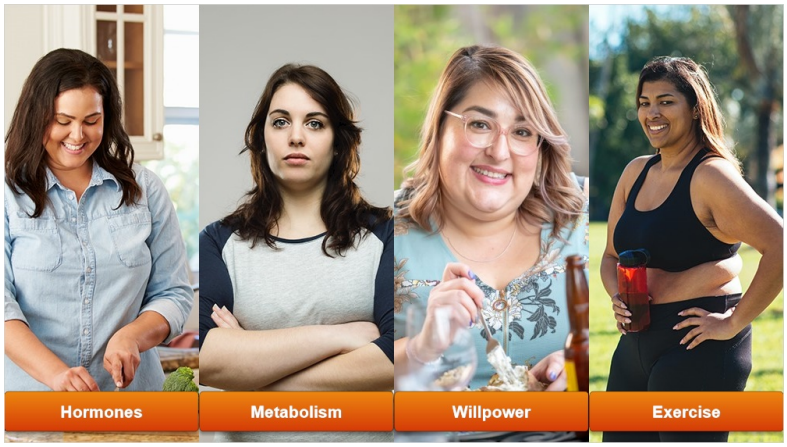
Once you reach adulthood (and your height doesn't change anymore), your BMI is a reflection of whether your weight goes up or down. You can think of weight gain and loss in terms of energy (or calories) balanced on a scale. On one side of the scale are the energy needs of your body. There are three reasons your body needs energy, also known as energy expenditure.

The first is your Basal Metabolic Rate, or BMR, which makes up the majority of your calorie expenditure, approximately 70%, and is the calories that are needed to keep you alive. Think lungs breathing, heart pumping, etc. The next is called the Thermic Effect of Food (TEF), which is a measure of the calories required to digest and absorb the food you eat. The TEF represents a small amount of energy expenditure, often about 10%. The final form of energy expenditure is the calories that you expend through physical activity. The calories expended through physical activity can vary greatly from person to person but is commonly around 20%.

On the other side of the scale are the calories that you eat, also known as energy intake.

A person maintains weight when they are in "energy balance" indicating that the number of calories eaten is the same as the number of calories expended. A person will lose weight when they are in a negative energy balance. This happens when a person's body is expending more calories than they're eating. A person will gain weight when they are in a positive energy balance. This happens when a person's body is expending less calories than they're eating.

3.21 The Challenge of Weight Loss



Notes:

Millions of Americans attempt to lose weight each year, and of those that do lose weight, the majority will regain all or most of it in the following years. This is because when a person goes on a diet and into negative energy balance, their body will use several strategies to prevent starvation. Next, let's take a closer look at four of these strategies.

Click on each image to find out about hormones, metabolism, willpower, and exercise.

Hormones (Slide Layer)

Hormones

There are hormones that influence appetite. Ghrelin rises signaling we're hungry. After eating, leptin rises to signal we're full. But when dieting the levels can change. For many people leptin stays lower, so that they don't feel full, and ghrelin rises so they get hungry quicker.

Metabolism (Slide Layer)

Metabolism

As we just learned, your Basal Metabolic Rate (BMR) is a measure of how many calories your body is burning while at rest. Unfortunately, for many people on a calorie restricted diet, BMR is reduced as their bodies try to conserve calories by improving metabolic efficiency. Although a more efficient metabolism sounds like it would be a good thing, the result is that the person's body requires fewer calories. This may explain why so many dieters claim that their weight loss hits a "plateau" despite continuing the same diet that had previously been resulting in weight loss.

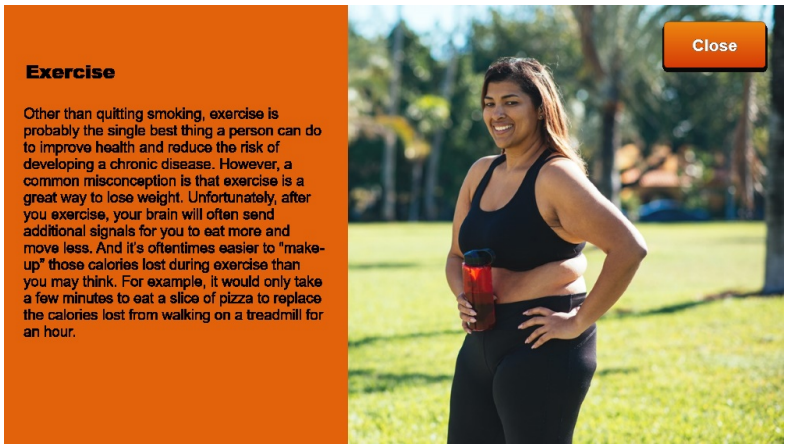
Willpower (Slide Layer)

Willpower

What does willpower have to do with dieting results? Some people think changing eating habits is just a matter of willpower. They think having the willpower to avoid poor

nutrition habits and switch to healthier food and drinks will be enough to be successful. But when we deprive ourselves, the brain can signal us to want what we're not "supposed" to have. So, we might become even more focused on what we're denying ourselves and want it even more.

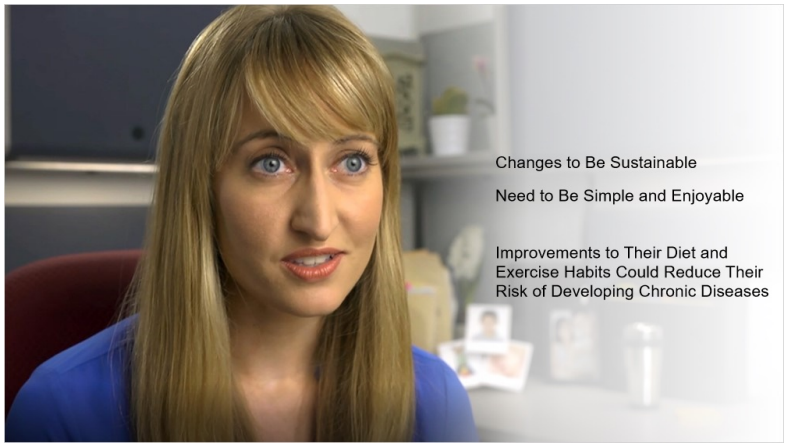
Exercise (Slide Layer)



Exercise

Other than quitting smoking, exercise is probably the single best thing a person can do to improve health and reduce the risk of developing a chronic disease. However, a common misconception is that exercise is a great way to lose weight. Unfortunately, after you exercise, your brain will often send additional signals for you to eat more and move less. And it's oftentimes easier to "make-up" those calories lost during exercise than you may think. For example, it would only take a few minutes to eat a slice of pizza to replace the calories lost from walking on a treadmill for an hour.

3.22 Reevaluating Weight Loss Goals



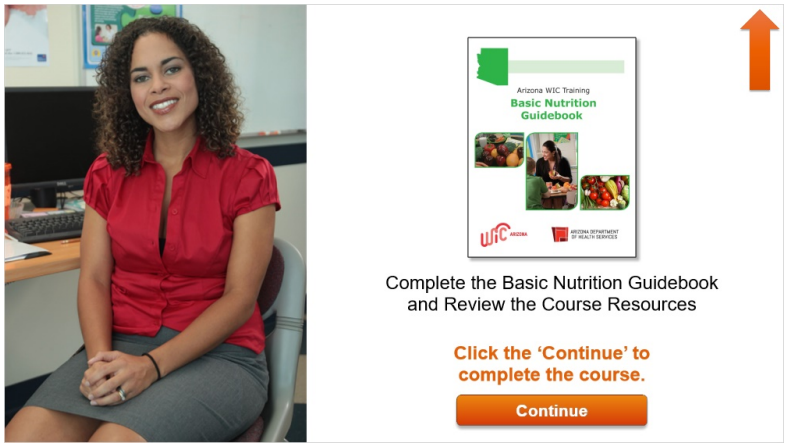
Notes:

So, you might be wondering, “If it’s so hard to lose weight and keep it off, what should I tell WIC participants who are overweight or obese?” The most important thing to remember is that you can work with these participants to optimize their health at their current size.

Like we discussed before, there is an increased risk of chronic disease among those with high BMIs, but that risk shrinks significantly among those with healthy behaviors. So instead of developing goals to lose weight, work with WIC participants to develop goals to make improvements to their eating and physical activity habits.

Also, in order for any changes to be sustainable, it’s vital that they be simple and enjoyable to the participant, so they don’t have to rely on their willpower. If participants can make sustainable improvements to their diet and exercise habits, chances are excellent that they’ll significantly reduce their risk of developing chronic diseases, even if they lose little to no weight.

3.25 Nutrition Wrap Up



Notes:

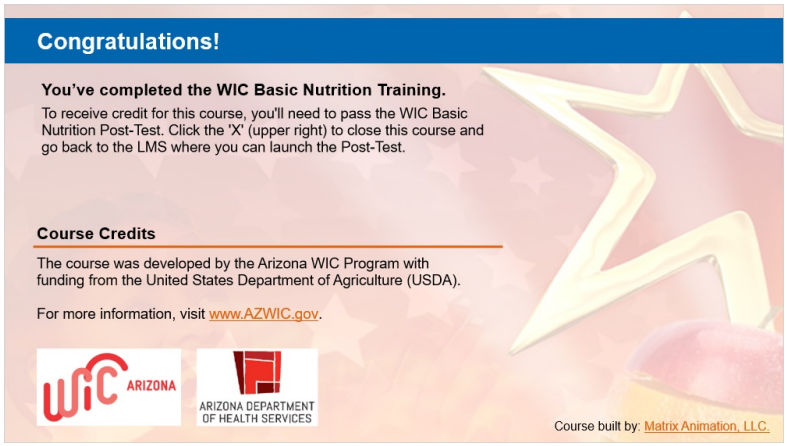
Wow we covered a lot of nutrition topics in this course!

- Digestion and Absorption
- Macronutrients - carbohydrates, proteins, fats
- Micronutrients - vitamins and minerals
- Water
- Food labels
- Healthy Food Choices
- MyPlate and dietary guidelines
- Health and nutrition indicators
- The Challenge of Weight Loss. and
- Reevaluating Weight Loss Goals

If you haven't already done so, please complete the basic nutrition guidebook that accompanies this course, and be sure to check out the resources tab for additional learning opportunities

Click the 'Continue' to complete the course.

3.26 Congratulations



Basic Nutrition Resource Links

Interactive Nutrition Facts Label
https://www.accessdata.fda.gov/scripts/interactivenutritionfactslabel/

How to Use and Understand the Nutrition Facts Label
https://www.fda.gov/food/new-nutrition-facts-label/how-understand-and-use-nutrition-facts-label

Common Nutrient Claims
https://www.heart.org/en/healthy-living/healthy-eating/eat-smart/nutrition-basics/food-packaging-claims

Intakes Reference
https://ods.od.nih.gov/Health_Information/Dietary_Reference_Intakes.aspx

Choose MyPlate
https://www.choosemyplate.gov/

Moms/Moms to Be
https://www.choosemyplate.gov/browse-by-audience/view-all-audiences/adults/moms-pregnancy-breastfeeding

Vegetarian Tip Sheet
https://www.choosemyplate.gov/ten-tips-healthy-eating-for-vegetarians

Additional MyPlate Tip Sheets
https://www.choosemyplate.gov/resources/myplate-tip-sheets

Dietary Guidelines for Americans
https://health.gov/our-work/food-nutrition/2015-2020-dietary-guidelines/guidelines/