



Family Program - Adults

Whole Grains and Sodium

Overall Learning Objectives:

- Understand that whole grains provide fiber, vitamins and minerals that are important to good health.
- Know that half the grains eaten each day should be whole grains.
- Understand the difference between whole grains and processed grains.
- Understand how to read ingredient lists to determine if products contain whole grains and how to read nutrition labels to determine fiber content.
- Know ways to increase consumption of whole grains.
- Understand the risks of high sodium diets and learn how to evaluate the sodium content of foods.
- Understand the importance of cooking meats to the appropriate temperatures and how to use a meat thermometer to monitor internal temperatures of meats.

Note: For the Whole Grain lesson emphasize the benefits of **fiber**.

Agenda:

20 minutes	<ul style="list-style-type: none"> • Welcome and sign-in • Exercise Week 3 • Share experiences in using the slow cooker, answer questions • Any questions/comments from the last lesson
30 minutes	<ul style="list-style-type: none"> • Discuss Whole Grains using Whole Grain Visuals • Distribute samples of wheat flour, wheat germ, wheat bran and white flour • Distribute sample packages of whole grains and enriched products and have participants read ingredient list and look at fiber contents • Distribute samples of whole grains for participants to taste such as brown rice, whole wheat couscous, quinoa and bulgur
10 minutes	<ul style="list-style-type: none"> • Taste Recipes 1 and 2 - Analyze using Recipe Framework
10 minutes	<ul style="list-style-type: none"> • Sodium Lesson
15 minutes	<ul style="list-style-type: none"> • Taste Recipe 3 - Analyze using Recipe Framework • Explain Meat Thermometer
5 minutes	<ul style="list-style-type: none"> • Complete class evaluations • Distribute meat thermometers • Distribute groceries to participants

Supplies for participants:

- Groceries
- Bags for groceries
- Slow Cookers

See [Teaching and Program Implementation Kits](#) for additional materials needed for class.

Select recipes:

- For Recipe 1 demonstrate a slow cooker meal where whole grains are a main emphasis of the recipe.
- For Recipe 2 demonstrate any meal where whole grains are a main emphasis of the recipe.
- For Recipe 3 demonstrate a slow cooker meal where whole grains and a large piece of poultry or meat is included so that use of a meat thermometer can be demonstrated.

See [Recipe Selection and Giveaways](#) for suggestions on recipes.

Exercise - Week 3 – Mention that a yoga exercise routine is in Section 3, page 8.

(If exercises are done on floor wash hands or use hand sanitizer.)

Share Experiences

Did everyone have a chance to use their slow cookers? **(Have participants share their experiences.)**

Any questions before we get started?

Lesson

Today we're going to talk about whole grains and learn to prepare a few meals using some of these whole grains. The USDA recommends that at least half of the grains we eat each day are whole grains. Whole grains provide essential vitamins, minerals and fiber not found in processed grains. By the end of the class you will:

- Understand the difference between whole grains and processed grains and why whole grains are healthier.
- Be able to identify foods containing whole grains.
- Have some ideas for including more whole grains in your diet.

There is a lot of confusion about whole grains. Can anyone tell me what whole grains are? **Let's turn to Section 3, page 19 in your Workbooks.**

All grains start off as whole grains like rice and wheat. This is their natural state when growing on the plant. Each grain consists of three parts **(Use visuals)**:

The endosperm – this is the starchy part of the grain. It contains a few vitamins, minerals and some protein.

The bran – this is the outer protective shell of the grain; it is rich in B vitamins and fiber.

The germ – this is where the seed is stored for a new plant. The germ contains B vitamins, protein, minerals such as potassium, magnesium and iron and healthy oils.

Each part of the grain can be purchased separately. Here are some samples of what the grain looks like after it is processed and separated.

(Hold up examples and talk about each one individually.)

This is the endosperm, sold as white flour.

This is the germ, sold as wheat germ.

This is the bran, used in cereals to increase the fiber.

When the whole grain is ground into flour, you get whole-wheat flour.

(Pass out the samples of whole-wheat flour, bran, wheat germ and white flour. Encourage participants to touch the samples.)

When grains are processed the parts with the fiber, vitamins and minerals are removed.

- Packaged and commonly eaten foods such as crackers, white breads and pastas contain mostly the endosperm or starchy part.
- Grains were originally processed to remove mold and bacteria. The white color was more appealing and was perceived as a prestigious food for the wealthy or upper class. As we learned more about the science of food it was realized that vitamins were missing from the processed white flour. The government required manufacturers to add nutrients back to the processed grain by “enriching” the grains with vitamins and minerals. By consuming only enriched grains, your body still misses out on many of the health benefits of whole grains, because they don’t add all of the nutrients and fiber back.

Why are whole grains good for us?

- Help us to maintain a healthy weight. The fiber in whole grains fills you up so you are less likely to overeat.
- May reduce their risk for cancer, heart disease, and diabetes.
- Whole grains have more protein. Protein is important for building lean muscle and keeps you full for longer.
- Whole grains are less expensive than store bought cereals and packaged products like rice etc. For example, whole grain oats are approximately half the price per ounce compared to boxed oat cereals.

If whole grains are so good for us, why don't we eat more of them? **(Allow participants to answer.)**

Many people are used to purchasing processed or white grain products, such as cereals and snack foods. Also, companies often label foods in a sneaky way and advertise that their food contains whole grains. Just because an item contains whole grains, it does not mean that the grain is 100% whole grain. **(Have participants go to the explanation of this in Section 3, page 20 of their workbook.)**

To determine if a food is a whole grain you need to read the package or ingredient list. The ingredients are listed in order from the largest amount to the smallest amount contained in the product. So, if the first ingredient is whole-wheat flour, then there is more whole-wheat flour in the product than anything else. **(Distribute packages of whole grain and enriched products to practice reading ingredients. Use products familiar to your group.)**

100% whole grain foods contain no enriched grains. Some only have one ingredient listed on the label, such as brown rice or rolled oats.

There are many foods that contain whole grains but **are not 100% whole grain**.

- Foods advertised as “made with whole grains” can have a blend of whole grains and enriched grains.
- Bread is labeled “wheat” or “multigrain” or is colored brown may not be whole grain.
- Enriched products are usually not as healthy as 100% whole grain foods, even though they may still contain vital nutrients, and some fiber.

The ingredient list can give us a clue as to whether a product is mostly 100% whole grain, or if it is primarily white grains.

- The ingredient list places ingredients in order from majority to minority.
- For foods high in **whole grains**, the first ingredient on the ingredient list should contain the word “whole”, for example, “whole wheat”.

Let's look at some examples. **(Use Visuals.)**

- Gold Fish® packaging shows whole grain wheat flour as its first ingredient; this means there is more whole grain in the product than any other ingredient.
- Now let's take a look at the Wheat Thins®. Do you see the word “whole” in the first ingredient? No. It just says wheat, not whole wheat. We want to choose products that list whole grain in the beginning of the ingredient list, not the end.

- So which of these two snacks, Goldfish or Wheat Thins is a better source of whole grains? (*Answer: The whole grain Gold Fish®.*)
- Finally, we'll take a look at an enriched grain, Sara Lee Honey Wheat Bread®. It sounds healthy, doesn't it? Let's take a closer look at the ingredient list. Notice that the first word is enriched flour. There is no whole grain listed anywhere in the ingredient list! Are you surprised? Again, we want to limit the amount of processed grains we consume and replace these foods with whole grains.

Another example of a whole grain is corn tortillas. They are whole grain because they include the whole kernel of corn, including the important nutrient; fiber. Corn tortillas will usually be a better choice than flour tortillas: not only do they contain fiber, but they also tend to be lower in sodium. If you prefer flour tortillas, make sure you check the ingredients, buy the whole wheat tortillas and check the sodium level. We'll talk more about this later.

(Pass out plates filled with samples of cooked whole grains such as brown rice, whole wheat couscous, quinoa and bulgur.)

We are passing out a few samples of different whole grains: brown rice, whole-wheat couscous, quinoa and bulgur. They are made plain – just with water so that you will see that each grain has its own distinctive flavor.

How do you like the grains? You might find they are a little chewier than processed grains and this is because of the fiber.

(Be prepared to answer questions about where they can buy the grains and how much they cost.)

With many recipes you can substitute different grains, depending on your family's preferences. For example, if your recipe calls for white rice, try substituting brown rice, barley or bulgur. The recipes that you are trying today use the whole grains you sampled to give you a taste of how their flavors can add to different dishes.

Now that we know what to look for when picking whole grain products, let's talk about how many whole grains we need to eat each day.

- Try to eat half or more of your grains as whole grains. Remember MyPlate? **(Section 3, page 12)** How much of the plate should grains fill up?
- MyPlate suggests that $\frac{1}{4}$ of our plates should be grains, preferably whole grains.

Can we think of ways to incorporate more whole grains in our diets? **(Ask participants to give ideas.)**

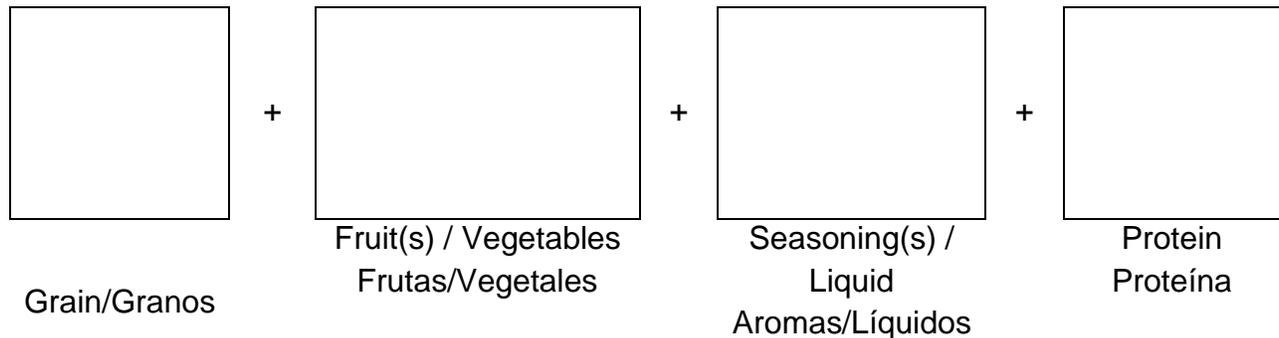
- For breakfast: Eat a bowl of oatmeal or whole grain cereal.
- For lunch: Choose whole wheat bread or pita; mix whole grains in your soups or salads.
- For dinner: Try a new grain such as quinoa, millet, or brown rice.

(In some cultures they cook their grains in items other than water. For example, in some Latin communities like Mexico, rice is toasted in a little oil then a blended mixture of tomatoes, garlic, onions, and sometimes peppers is used as the liquid for cooking the rice. Talk about how this could be done with whole grains.

Likewise, ask about other circumstances where participants are concerned about substituting whole grains and as a group brainstorm about how these substitutions could be made.)

Please turn to Section 3, page 21 in your Workbook. Here we compare the fiber of different whole grains, vegetable-based proteins and vegetables. We mentioned that whole grains could be a good source of fiber. Look at how much the fiber content varies with brown rice at 3.2 grams and bulgur at 13 grams.

(Serve Recipes 1 and 2. Analyze using the Recipe Framework and discuss substitutions or additions to the recipes. Have participants turn to Recipes 1 and 2 in the Workbooks.)



Would you substitute any grains? Change the seasonings? Add any meats or nuts for a different protein? Help them brainstorm until they understand how it works.

There is no wrong answer. It just depends on what flavors you and your family enjoys. However, bear in mind how long it takes to cook different vegetables and grains. For example, if you want to add spinach, you should add it at the end so it cooks lightly. It takes so little time to cook; this will help it maintain its nutrients. Bulgur and quinoa cook in 15 to 20 minutes while brown rice and barley take 45 minutes to an hour.

Sodium Lesson

Turn to page 22 (Section 3) in your Workbook. Salt is made of two minerals; sodium and chloride, but to simplify we often use the words salt and sodium interchangeably. Sodium is an important mineral for our health. It helps maintain the right balance of fluids in our bodies and helps carry nerve impulses that make our muscles contract and relax. However, too much salt can have adverse effects on our health. It can lead to fluid retention and contribute to heart disease. Sodium intake, on average, directly relates to blood pressure: higher intake of sodium is associated with higher blood pressure¹. It is important to keep blood pressure within the normal range to reduce risk of cardiovascular disease, congestive heart failure and kidney disease.

The USDA 2010 Dietary Guidelines¹ recommend limiting sodium intake to less than 2300mg per day. People with hypertension, diabetes or chronic kidney disease or who are over 51 should limit sodium intake to 1500mg per day. Most Americans consume more sodium than is recommended.

The average diet is based on 2000 calories, and the daily sodium intake is recommended to be less than 2300mg. An easy way to monitor your sodium intake is to strive for a ratio of milligrams (mg) to calories that is loosely one to one. For example, look for whole wheat tortillas where the milligrams of sodium for one tortilla are equal to or less than the calories for one tortilla. Let's look at the grain packaging again. This time compare the milligrams of sodium to the calories. Does anything surprise you?

There are several steps you can take at home to help control sodium consumption.

- Make home cooked meals so you can control the amount of sodium added.
- Choose fresh foods over processed foods.
- Taste the recipe before adding salt.
- Choose foods labeled "low-sodium," "reduced sodium" or "sodium free".
- Use fresh tomatoes instead of tomato sauce when possible.
- Read the ingredient label and watch for words like monosodium glutamate (MSG), baking soda and other sodium-containing compounds.
- Make high sodium foods like pizza a once-in-a-while treat.
- Try fresh or dried spices and herbs or strong flavored foods such as tomato paste or mushrooms to season your food instead of salt.
- Take the salt shaker off the table.

By cutting down on salt slowly, your family's palette will accept the change more easily.

¹ <http://www.cnpp.usda.gov/publications/dietaryguidelines/2010/policydoc/policydoc.pdf>

(Serve Recipe 3. Have participants turn to Recipe 3 in the Workbooks.) Any recipe can be made with different whole grains, depending on what you and your family like. This recipe is another example of how we can change grains, using the recipe framework. Do you like this recipe? What changes might you make to it?

Meat Thermometer

Today we are going to give you a meat thermometer to take home. Thermometers are a great way to determine if your meat is cooked. Has anyone ever served meat that was either too well done or still raw in the middle? This is why a meat thermometer is an essential tool to have when cooking.

Turn to Section 1, page 11 in your Workbook.

A meat thermometer helps:

- Prevent food borne illness.
- Prevent over cooking.

Measuring the Temperature

- Insert the thermometer when you think the food is cooked. Do not cook the food with thermometer in it.
- If food is not fully cooked remove thermometer and clean thoroughly with warm soapy water before testing the temperature again. Do not wash the measurement dial.
- Clean thoroughly with warm soapy water after use. Do not wash the measurement dial.

Poultry

- Minimum safe cooking temperature is 165 degrees.
- If the chicken or turkey is stuffed, the stuffing temperature must reach 165 degrees.
- Insert into the meaty inner thigh area near the breast.
- Do not touch any bones with the thermometer.

Beef, Pork, Ham, Lamb, Veal

- Minimum safe cooking temperature is 145 degrees.
- Insert into thickest part of the meat.
- Stay away from bone, fat and gristle.

Ground Meats and Ground Poultry

- Minimum safe cooking temperature is 145 degrees.
- Insert into thickest part of the meat.
- If the meat is thin (like a hamburger), insert thermometer into the side of the item.

If a Children's Program is included add the following. Turn to Section 3, page 23.

Today the children discussed the importance of staying hydrated and the nutritional benefits of various beverages. Many children don't drink enough water. Dehydration can lead to headaches, nausea, diarrhea, fatigue, mood swings, and cramping. Note that there is not a magic number as to how many ounces of water a child should drink in a day (given the variability in activity level and size of the child). However, one can safely assume that most children need at least five cups of water per day. Water is the best beverage choice, followed by milk or milk substitute, and finally 100% juice. 100% juice (even homemade) contains beneficial nutrients but is also high in sugar and should be limited to 8oz or one cup per day. Sports drinks, punch and sodas should be consumed in moderation, if at all. They tend to be high in sugar and artificial ingredients and some lack beneficial nutrients. This page provides a summary and some beverage ideas. You can reinforce this at home by not buying soda, sport drinks and chocolate milk other than when going out to eat, buying 4oz to 8oz cups that are used for juice, buying fat free or 1% milk, making caffeine free ice tea, and flavoring water with lemon or other fruits.

Next week we will be talking about Home Cooked Meals and Desserts. We will be sampling some quick healthy meals for breakfast and some desserts that have had a healthy makeover!. Have a great week!

Before dismissing the class, remind them to bring back their grocery bags and Workbooks next week.

Allow five minutes to fill out class evaluations and to hand out groceries.

Teaching Tips

Q: A nutritionist informed me if you balance carbs with protein, the food doesn't turn to sugar as fast. My doctor never heard of this - is this something new?

A: Carbs and proteins are digested and metabolized and turned into blood sugar at different rates. Carbs, especially simple carbs, become sugar anywhere from 5 minutes to 30-60 minutes after eating. The higher the fiber, the slower the carbs turn to sugar. Protein begins breaking down into sugar about two hours after eating. When your starches and fruits are mixed with protein, they will take even longer to turn into sugar. Juice is almost always immediately turned to sugar, which is why we don't advise juice be in your food plan at all - or rarely. Getting the bulk of your carbs from veggies/whole grains/legumes is the best approach for including them in your meal plan without raising your glucose levels as quickly.

http://www.diabetesaction.org/site/PageNavigator/tip_food_diet

Additional Resources

<http://www.cspinet.org/nah/wwheat.html>

<http://www.wholegrainscouncil.org/>

<http://www.bellinstitute.com/ResourceDetail.aspx?ResourceId=425&PageId=81&SubPageId=65>