Display this slide as the participants arrive.

Welcome the participants as they enter the room.

Check each participant off of the class roster.

At the designated starting time, thank them for coming and introduce yourself.

In consideration to your fellow class members, please turn off your cell phone or turn it to vibrate mode. If you must take a call, please leave the room before talking.

Activity 1: Warm Up-Complete the Popular Salt Phrases

Introduction: Salt has played a central role throughout civilization, in every culture and every religion.

- Ancient Egyptians, Greeks and Romans included salt in sacrifices and offerings.
- Muslims and Jews believe salt helps ward off the evil eye.
- Salt once was literally worth its weight in gold, traded ounce for ounce.
- The word "salary" is derived from the Latin salarium, meaning salt allowance.

Supplies:

1. *"Warm Up" (Popular Salt Phrases) in participant booklet*
2. *Pencil or pen*

Procedure:

1. *Divide the participants into groups of 3 or 4 per group.*
2. *Ask them to turn to the "Warm Up" (Popular Salt Phrases) worksheet in the participant's booklet.*
3. *Give the groups 3-5 minutes to complete the phrases.*
4. *Review the correct answers with the participants.*
5. *Optional. Provide a small prize to the members of each group that get all answers correct.*

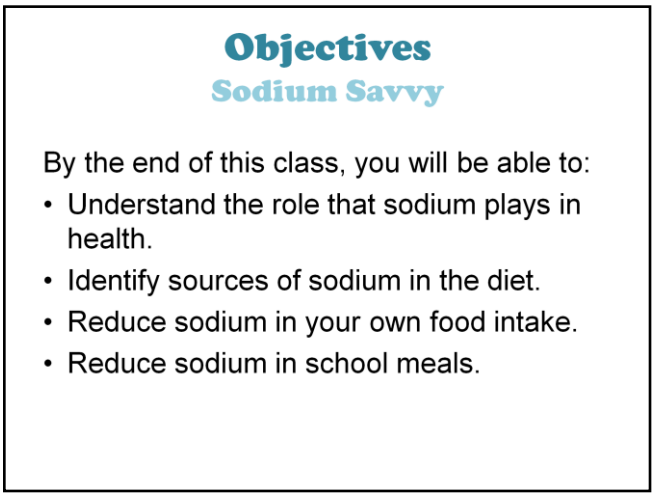
Estimated Time:

5 minutes

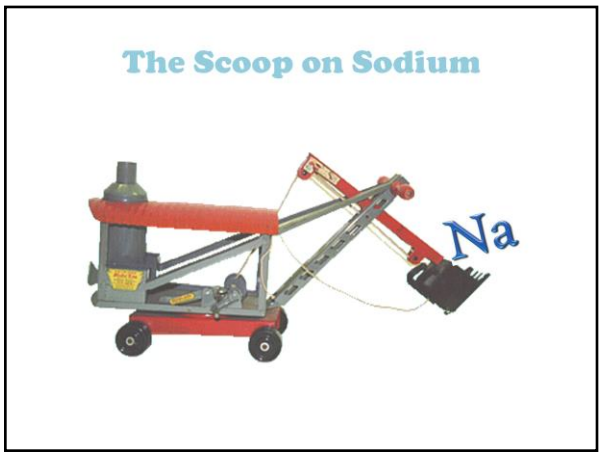
Answer Key:

1. Salt of the earth.
2. A pinch of salt.
3. Take it with a grain of salt.
4. When it rains it pours. (Hint: Morton Salt slogan)
5. Worth one's salt.
6. Salting a mine.
7. Pouring salt on a wound.

Trainer Notes: *The phrase "worth one's salt" began with the ancient Romans. One reference suggested that the origin of the phrase "worth one's salt" could date back to before 900 B.C. During that time, Roman soldiers were paid for work in salarium, which was an allowance for the purchase of salt. Salt was considered good for human health and was a hard to find commodity. The word soldier, in that era, literally meant 'one who is paid in salt. The 'sal' in the word salarium is Latin for pay. Over the years, the word salarium was shortened and came into the English language as salary. To say that someone is worth his or her salt, you are saying that he or she is worth the wages that he or she earns.*



In this 2-hour class we are going to cover four objectives. *Read the objectives from the slide.*



Activity 2: The Scoop on Sodium: American Heart Association Quiz

Supplies:

1. *Participant Booklet, the Scoop on Sodium Quiz*
2. *Pen or pencil*

Procedure:

1. *Review the quiz together as a group.*
2. *Read each question from the quiz in the participant booklet and allow participants to guess the correct answer. Tell them the correct answer along with the explanation The answer key is given below.*

Estimated Time:

5 minutes

Answer Key:

1. ***A-True.*** *Sodium plays a role in regulating fluids and blood pressure in the body. Too much sodium in your system causes your body to retain water, which puts an extra burden on your heart and blood vessels. Reducing the amount of sodium in your diet may help you lower or avoid high blood pressure.*
2. ***C- 200 mg.*** *Your body doesn't need much sodium for daily functions and fluid maintenance. Americans consume an average of 3-3.6 grams (3,000-3,600 mg) of sodium each day.*
3. ***B-False.*** *About 75% comes from processed food. Salt added at the table accounts for only about 6%.*
4. ***B-1 tsp.*** *One teaspoon of salt contains 2,300mg of sodium. Not all people react the same to sodium. African Americans, people who are middle-aged and older, and those with high blood pressure are more sensitive to sodium and need less than 1,500mg per day.*
5. ***A-True.*** *When buying prepared foods, always read the nutrition labels for the sodium content. For example, foods with less than 140mg or 5% the Daily Value per serving are low in sodium. Watch for the words "soda" (referring to sodium bicarbonate, or baking soda) and "sodium" and the symbol "Na." These products contain sodium compounds that count toward your daily sodium intake. For instance, 1 tsp. baking soda contains 1,000mg of sodium.*
6. ***B-False.*** *Chemically, kosher salt and sea salt are the same as table salt- 40% sodium- and count the same toward sodium consumption. Table salt is a combination of the two minerals sodium and chloride.*
7. ***A-Tomato Juice.*** *Sodium content ranges from 340-1040mg for 8 oz depending on the brand. One ounce of potato chips has 120-180mg.*
8. ***A-True.*** *Make a habit of carefully reading the labels of all over-the-counter drugs. A statement of sodium content must appear on labels of antacids containing 5mg or more per dose. Some companies produce low-sodium over-the-counter products. Consumers can't know whether a prescription drug contains sodium. If in doubt, ask your physician or pharmacist if the drug is OK for you.*

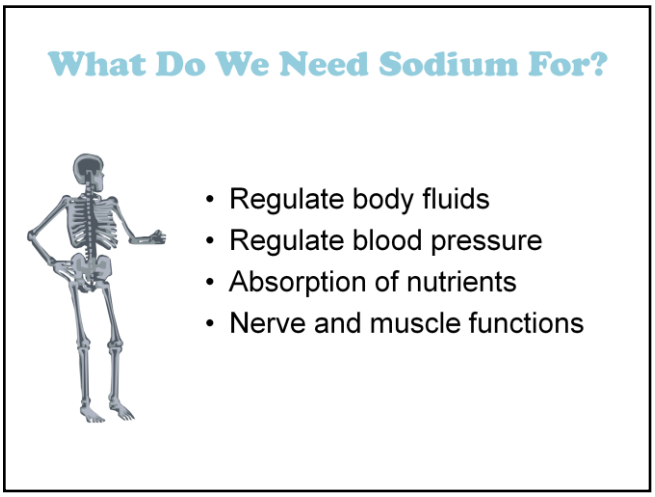
What is Sodium?

- A mineral
- An electrolyte found in the body
- Part of salt (sodium + chloride)
- 40% of salt is sodium, 60% is chloride
  - 1 teaspoon salt = 2,360 mg sodium
  - ¾ teaspoon salt = 1,770 mg sodium
  - ½ teaspoon salt = 1,180 mg sodium
  - ¼ teaspoon salt = 590 mg sodium

Sodium is a mineral that is essential for our health. Our bodies cannot live without sodium. The sodium that our bodies need cannot be made by the body and so our bodies rely on the sodium from the food that we eat. Compared to other minerals, we need sodium in a relatively large amount. But as you all know, we typically consume much more sodium than our bodies need. We will talk about the potential health risks from too much sodium later in this class.

When you think of sodium, salt probably comes to mind. Although the two terms, "sodium" and "salt" are often used interchangeably, they are different substances. The chemical name for salt, sodium chloride, tells us that sodium is in fact a component of salt. As the slide indicates, salt is 40% sodium and 60% chloride.

- 1 teaspoon salt = 2,360 mg sodium
- ¾ teaspoon salt = 1,770 mg sodium
- ½ teaspoon salt = 1,180 mg sodium
- ¼ teaspoon salt = 590 mg sodium



Current health advice warns against getting too much sodium in your diet. This warning is based on research that suggests eating high amounts of sodium may contribute to the development of high blood pressure (or hypertension) in certain people. High blood pressure may then lead to heart disease, kidney disease or stroke.

Your body does need sodium - just not too much sodium - to function properly. In our bodies, about 50% of sodium is in extracellular fluid, (between cells) and 40% is in skeletal tissue and the remaining 10% is inside of cells. Sodium helps with several important body functions:

- Helps maintain the right balance of fluids in your body,
- Helps to regulate blood pressure,
- Helps with the absorption of nutrients (primarily glucose),
- Helps transmit nerve impulses, and
- Influences the contraction and relaxation of muscles.

How Much Is Enough Per Day?

- Dietary Guidelines
  - 2,300 mg/day
- Institute of Medicine
  - 1,200 mg/day for ages 4 to 8
  - 1,500 mg/day for ages 9 to 50
  - 1,300 mg/day for ages 51 to 70
- American Heart Association
  - 1,500 mg/day for special populations

The 2010 Dietary Guidelines for Americans recommends a maximum intake of 2,300 mg of sodium per day.

The Institute of Medicine recommends a maximum of 1,200 mg of sodium per day for children ages 4 through 8; 1,500 mg per day for ages 9 through 50; and 1,300 mg per day for adults ages 51 through 70.

The American Heart Association recommends that special populations such as African Americans, middle-aged and older adults, and people with high blood pressure consume less than 1,500 mg/day.

Sodium Reduction Lunch

Sodium Reduction in Final Rule for Lunch Timeline & Amount				
Grades	Current Average	Target 1 SY 2014-15	Target 2 SY 2017-18	Final Target SY 2022-23
K-5	1,377	<1,230	<935	<640
6-8	1,520	<1,360	<1,035	<710
9-12	1,588	<1,420	<1,080	<740

Child Nutrition Reauthorization took into consideration the recommendations made by the Institute of Medicine and set sodium targets for school meals as part of the Healthy Hunger Free Kids Act (HHFKA) of 2010. USDA recognizes that it is difficult to achieve substantial reductions in sodium immediately which is why intermediate targets were established, as well as, a final target.

The sodium targets listed for lunch on this chart are effective SY 2014-15. KSDE encouraged sponsors to start working on lowering the sodium in school menus beginning in SY 2012-13. Gradual reductions in the sodium content of meals increases the likelihood of customer acceptability.

This chart is a summary of the required sodium reductions for lunch.

- The first column lists grade groups.
- Column 2 provides baseline sodium levels of school lunch meals offered for each grade group. This is a national average baseline, gathered from data that was collected in the school year 2004-05. Individual schools may actually be much higher or lower than this national average.
- Column 3 shows Target 1 limits effective for SY 2014-15. This reflects sodium reductions that menu planners can achieve through menu changes and recipe modifications.
- Column 4 lists Target 2 limits effective for SY 2017-18. This is based on sodium reductions that can be feasibly achieved with product reformulations by food industry, using currently available technology.
- Column 5 lists Final Target limits. Meeting the Final Target will require new technology and/or food products and, therefore, USDA is allowing a 10-year period to meet the new requirement.

Sodium Reduction Breakfast

Sodium Reduction in Final Rule for Breakfast Timeline & Amount			
Grades	Target 1 SY 2014-15	Target 2 SY 2017-18	Final Target SY 2022-23
K-5	<540	<485	<430
6-8	<600	<535	<470
9-12	<640	<570	<500

Breakfast will also have sodium targets that are not effective until SY 2014-15. Again, KSDE encourages sponsors to start working on lowering the sodium in school breakfast meals now.

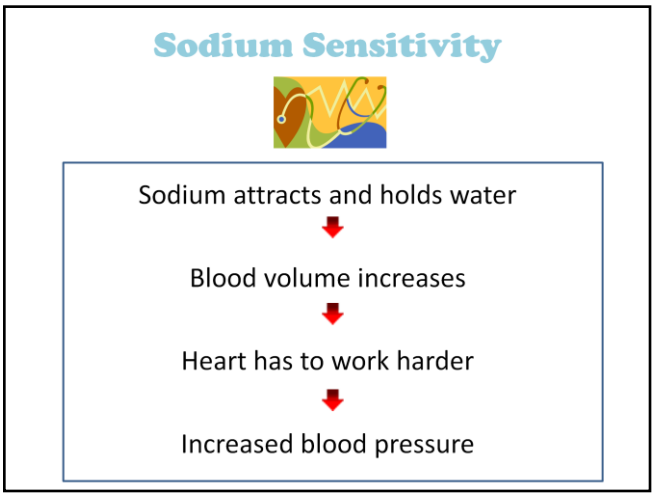
This chart is a summary of the required sodium targets for breakfast.

- Column 1 lists grade groups.
- Column 2 shows Target 1 limits. This reflects sodium reductions that menu planners can achieve through menu changes and recipe modifications. This is the first sodium target we need to focus on and is effective for SY 2014-15.
- Column 3 lists Target 2 limits. This is based on sodium reductions that can be feasibly achieved by SY 2017-18 with product reformulations by food industry, using currently available technology.
- Column 4 lists Final Target limits. Meeting the Final Target will require new technology and/or food products and, therefore, USDA is allowing a 10-year period to meet the new requirement.

Why Reduce Sodium?

- The prevalence of high blood pressure in children is rising, increasing their adult risk of heart disease and stroke.
- The average American Adult consumes 2,900 mg to 4,300 mg per day (American Heart Association).

Read slide.

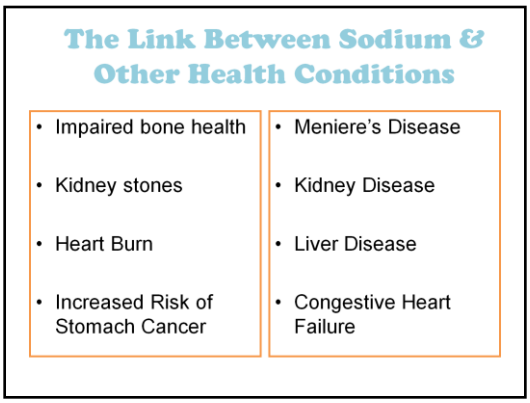


Some people are more sensitive to the effects of sodium than are others. People who are sodium sensitive retain sodium more easily, leading to excess fluid retention and increased blood pressure. If you're in that group, extra sodium in your diet increases your chance of developing high blood pressure, a condition that can lead to cardiovascular and kidney diseases. It is estimated that approximately 58% of people with high blood pressure are sodium sensitive.

Let's briefly discuss how sodium can affect blood pressure. Your kidneys regulate the amount of sodium kept in your body. When sodium levels are low, your kidneys conserve sodium. When levels are high, they excrete the excess amount in urine.

If your kidneys can't eliminate enough sodium, the sodium starts to accumulate in your blood. Because sodium attracts and holds water, your blood volume increases. Increased blood volume, in turn, makes your heart work harder to move more blood through your blood vessels, increasing pressure in your arteries.

Certain diseases such as congestive heart failure, cirrhosis and chronic kidney disease can also lead to an inability to regulate sodium.



We primarily hear about the link between sodium and high blood pressure. However, high sodium intakes have been linked to an increased risk of developing other health conditions. Dietary sodium restrictions are also included in the treatment of certain health conditions.

Bone health. Increased dietary sodium is known to trigger urinary calcium loss. Therefore, high intakes of sodium causes an increased loss of calcium in the urine. This is of particular concern regarding osteoporosis. Some short-term studies suggest that reduced sodium intake may lower the risk of bone fractures. However, long-term studies on the effects of sodium and bone health have not been conducted.

Kidney stones. Higher intakes of sodium can lead to increased levels of calcium in the urine. High levels of calcium in the urine is a common risk factor for the formation of kidney stones.

Heartburn. High salt intake may be associated with increased risk of gastro-esophageal reflux (GERD). A recent study of lifestyle related risk factors in the development of gastro-esophageal reflux suggested a potential relationship between salt intake and reflux. Individuals who regularly added extra salt to their meals were observed to have an increased risk of reflux symptoms.

Stomach cancer. Evidence from laboratory animal studies suggests that high intakes of salt may increase the incidence of gastric cancer. [Cohen and Roe, 1997] Researchers believe that salt may exert an enhancing effect on both the initiation and promotion steps of gastric cancer development. However, the evidence in humans is less clear.

Meniere's Disease. Meniere's Disease is a condition with symptoms that include episodes of hearing loss, vertigo (dizziness), tinnitus (ringing in the ears), and a sense of pressure in the middle ear, as if descending in an airplane. The vertigo experienced in Meniere's disease can be severe and debilitating. The cause of the disease is not known, but it is thought to be associated with the accumulation of fluid in the ears. The build-up of fluid affects the sound-sensing and balance cells in the ear. If the amount of fluid can be reduced, it may reduce the pressure and frequency of vertigo and other symptoms. Because sodium is known to attract or hold onto fluids in the body, a low-sodium diet is often prescribed to help reduce the build up of fluid in the ear and episodes of vertigo.

Kidney disease. Because sodium attracts and holds onto fluids in the body causing an increase in blood volume, a restricted intake of sodium is prescribed as part of the dietary management of acute and chronic kidney diseases.

Liver disease. In liver disease where edema is present, sodium restriction may be necessary to alleviate fluid retention.

Congestive Heart Failure. Sodium causes an increase in fluid retention which results in an increase in the volume of blood. When the blood volume increases, then the heart has to work harder to pump the blood. People with congestive heart failure are typically prescribed a low sodium diet.

Sodium Deficiency

- It is estimated that we need only 200 mg sodium/day to maintain proper function.
- Deficiency is not likely, but possible from: sweating, dehydration, vomiting and diarrhea.
- Could cause low blood pressure, nausea, dizziness or stroke.

Considering the high amount of sodium in our food supply in the United States and the fact that our bodies absorb almost all the sodium from those foods, sodium deficiency is rare. It is possible to develop a sodium deficiency due to excessive sweating, dehydration, diarrhea and vomiting.

Sodium & Athletic Performance

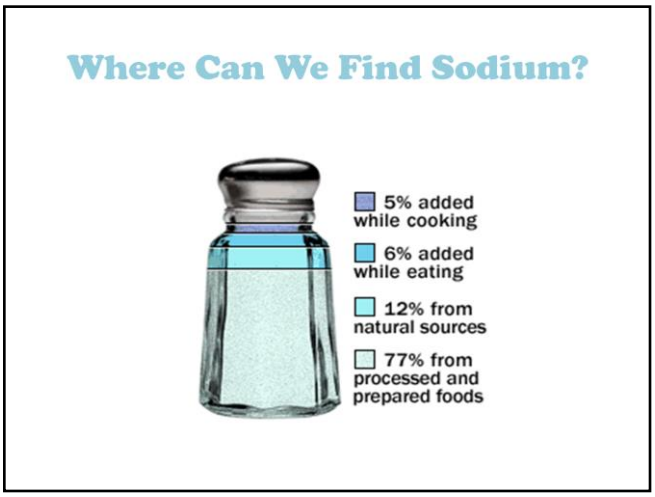
- Sodium helps to maintain the body's fluid balance.
- Prolonged activity and excessive sweating increase the risk of low blood sodium levels (hyponatremia).
- Replacing lost sodium and fluids during extended bouts of exercise is crucial.
- Sodium intake should not be restricted and should be replaced with sports drinks during prolonged exercise.

Sodium's primary role in athletic performance is related to maintaining fluid balance. Prolonged activity and excessive sweating increase the risk of a dangerous condition known as hyponatremia, a low concentration of sodium in the blood. During high intensity exercise and exercise in hot, humid conditions, sodium is lost along with sweat. When an athlete exercises in these conditions and only replaces the lost fluid with water, this contributes to a decreased blood sodium concentration. Athletes can lose 2 or more grams of salt per liter of sweat. For endurance athletes, who may lose a liter or more sweat per hour, this can result in a significant loss of sodium and water.

Replacing lost sodium and water is critical to performance and safety. Early warning signs of hyponatremia include nausea, muscle cramps, disorientation, slurred speech, and confusion. Left untreated, an athlete could experience seizures, coma, or death. To prevent hyponatremia, athletes should plan ahead for training and competition with these tips: [GSSI Sports Science News, 2004]

1. Drink plenty of water before, during, and after exercise—enough to offset fluid loss during exercise. Thirst is considered a poor indicator of fluid needs during physical activity.
2. Drink a sodium-containing sports beverage during long distance, high intensity physical activity.
3. Eat salty foods before and during an event, if possible. Increasing salt intake several days prior to a competition will allow additional hydration with water to help maintain the balance of sodium and fluid. Healthy high-sodium foods include pretzels, cheese, soup, pickles.

The American College of Sports Medicine and the National Athletic Trainer's Association advise athletes not to restrict their sodium intake. Instead, liberal salt use is recommended along with high-sodium foods and sports drinks, especially when exercising in hot conditions.



About 11 percent of the sodium in the average U.S. diet comes from adding salt or other sodium-containing condiments to foods while cooking or eating. But the majority of the sodium — 77 percent — comes from eating prepared or processed foods. So even though you may limit the amount of salt you add to food, the food itself may already be high in sodium due to processing.

Why Is There So Much Sodium Added to Foods During Processing?

- Enhances natural flavors of food.
- Salty flavor is appealing.
- Acts as a preservative for many processed items.
- Aids in the control of the rate of yeast fermentation in bread making.
- Improves texture of baked goods.
- Disguises chemical and metallic aftertastes.

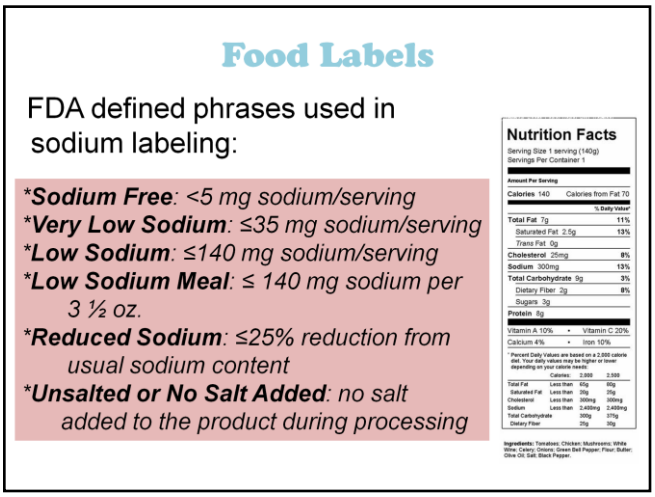
Salt and other sodium-containing ingredients are commonly added during food preparation and processing. Although enhancing flavor is a key role of salt, other functional roles of sodium in food include: *Read Slide.*

Why Is There So Much Sodium Added to Foods During Processing?

- Improves tenderness in cured meats.
- Produces an appealing color in processed meats and enhances the golden color of baked goods.
- Draws moisture out of pickled foods to create a crisp and firm texture.
- Increases the volume and stabilizes whipped egg whites and cream.

Read slide.

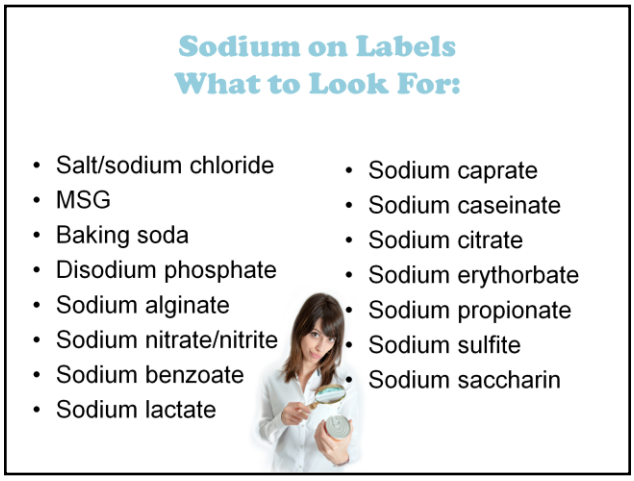
As you can see from this slide and the slide before, there are many reasons why food manufacturers add sodium to our food. Some foods that are high in sodium may actually taste less salty than foods that have less sodium. That is because in some products (like gourmet breads and crackers) the sodium containing ingredients are baked into the products. Whereas, in other processed food products such as potato chips, the sodium containing ingredient such as salt is prepared with the salt on the surface. We taste the "salty" taste first with the salt receptors located at the tip of our tongue. We will experience this first hand in just a little bit when we do our Taste Test Activity.



Refer participants to the Participant Booklet. Read slide.

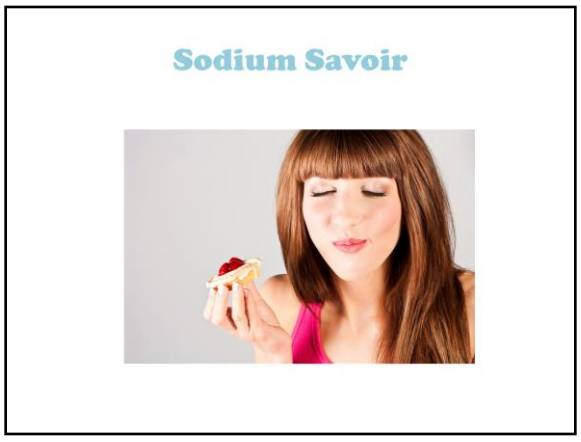
The sodium content of processed foods can easily be determined by looking at the ***Nutrition Facts*** label on a food product. Food manufacturers are required to list the amount of sodium in a food product. The amount of sodium will be listed in milligrams (mg). As you can see from this food label, 1 serving provides 300 mg of sodium. By the definition on the slide, this product is not a low sodium product. Depending on what this product is, we may want to find a lower sodium alternative. If it was a snack food item, we definitely would want to find a lower sodium product, but if this was a frozen dinner, then 300 mg of sodium for the entire meal might be ok.

Sodium is also listed as a percent of the Daily Value (*refer participants to the % DV column on the far right side of the label*). The reference value that is used is 2400 mg. So one serving of this food item provides 13% of the Daily Value of sodium. The percent daily value is another way to help the consumer put into perspective how much sodium one serving of a food item is contributing to the diet. If you prefer to use the percent daily value instead of the actual milligrams of sodium, then you can consider any food item that contributes 5% or less to be a low sodium food. If it contributes 20% of more, then consider that food item high in sodium.



The ingredient list for some foods can be very long. Have you ever wondered what all those ingredients are or what they do? This slide lists sodium containing ingredients that are found in some of the foods we eat. As we discussed earlier, sodium serves a variety of important functions in the foods we eat. *If time allows you can review all the ingredients but you may just want to pick out 4 or 5 ingredients to mention.*

Monosodium glutamate (MSG): a flavor enhancer.
Sodium bicarbonate (baking soda): used as a leavening agent; helps to release carbon dioxide in baked goods during baking to produce increased volume and tenderness.
Sodium phosphates: used as emulsifiers and stabilizers in processed cheese and to improve texture in processed meats.
Sodium alginate: Extracted from brown algae, it is used to increase viscosity and as an emulsifier. It is also used in indigestion tablets.
Sodium nitrite/nitrate: a curing agent used to preserve foods and prevent growth of bacteria that cause spoilage and foodborne illness.
Sodium benzoate: a preservative that prevents growth of yeasts and bacteria; used in acidic foods such as fruit juices, jams, relishes, and beverages.
Sodium lactate and sodium diacetate: used to prevent growth of harmful bacteria, in particular *Listeria monocytogenes* in cured, ready-to-eat meats.
Sodium caprate (or sodium caprylate): used as a binder, emulsifier, and anti-caking agent.
Sodium caseinate: used as a thickener and binder in coffee whiteners, nondairy whipped toppings, processed meats, and desserts.
Sodium citrate: used in many types of foods to control acidity and stability, aid in emulsification, or improve rehydration.
Sodium erythorbate: an antioxidant used to prevent color and flavor changes in a variety of foods.
Sodium propionate: used as a preservative and mold inhibitor in baked goods, cheese, confections and frostings, gelatin, pudding, jams and jellies, meat products, and soft candy.
Sodium sulfite (or sodium bisulfite, sodium metabisulfate): used to prevent fruit from darkening and losing flavor and vitamins while it's being dried.
Sodium saccharin: an artificial sweetener, also known as saccharin.



Activity 3: Sodium Savoir

Objective: To demonstrate the point that not all high sodium food items taste salty. Many products have salt added during processing and although they may not taste salty they can have more sodium per serving than foods that do taste salty.

Supplies:

1. *Sodium Savoir Worksheet located in Participant's Booklet*
2. *Pen or pencil*
3. *The five food items for Activity 3 (see Supply List in Administration)*
4. *Food Item Labels for Taste Test*
5. *Napkins, plates, tongs or spoons to serve food items with.*
6. *Bowls or plates for each food item that will be taste-tested.*

Procedure:

1. *Place food items to be taste tested in bowls or plates. Serve enough of each food item for each of the participants to have 1-2 small tastes.*
2. *Place labels in front of each food item.*
3. *Instruct participants to turn to the Sodium Savior worksheet in the Participant's Booklet.*
4. *Tell the participants that they are to taste each of the food items and guess the sodium amount in milligrams per serving of each food item and record their answers on the worksheet.*
5. *Allow participants about 10 minutes to taste the food and record their answers.*
6. *Review the correct answers with the participants. (To make it easier for the participants, possible answers of sodium ranges have been listed on the Sodium Savoir Worksheet. Please report the answers as an exact sodium content in mg.) Answer Key is on the next page in the trainer notes.*
7. *Discuss with the participants why they ranked the food items as they did and ask them which food items surprised them. Many participants will be surprised at the sodium levels. Remind them about the extensive sodium ingredients list that was just discussed and that many items have sodium added during processing. Also discuss the amounts of sodium per serving size and per oz. Sodium levels of other snack foods are listed on the answer key page to discuss as time allows.*

Estimated Time:

10 minutes

Children's taste for salt is a learned habit. By gradually reducing the salt and sodium in school meals, students' tastes can change. Cutting back on sodium in school meals can help students learn to enjoy foods for their natural tastes. Kicking the salt habit may provide health benefits for a lifetime.

Lower Sodium In Your Diet

- Eat at home more often.
- Eat out less often.
- Incorporate more fresh and frozen vegetables.
- Eat more fruit.
- Rinse canned vegetables.
- Go easy on the salt shaker.

In addition to reading food labels and trying to choose foods that are low in sodium, there are other actions you can take to lower the sodium in your own diet. *Read slide. Refer participants to Tips for Lowering Sodium in Your Diet handout in the participant booklet.*

Trainer Note: Thoroughly rinsing canned vegetables can reduce the amount of sodium by 40-50%.

Lower Sodium in Your Diet, cont.

- Substitute lower sodium convenience foods.
- Choose snacks with less than140 mg sodium.
- Serve condiments less often.
- Use condiments sparingly.
- Ask for oil and vinegar on salads
- Experiment with seasoning blends & herbs.
- Choose lower sodium breads.
- Purchase corn tortillas.

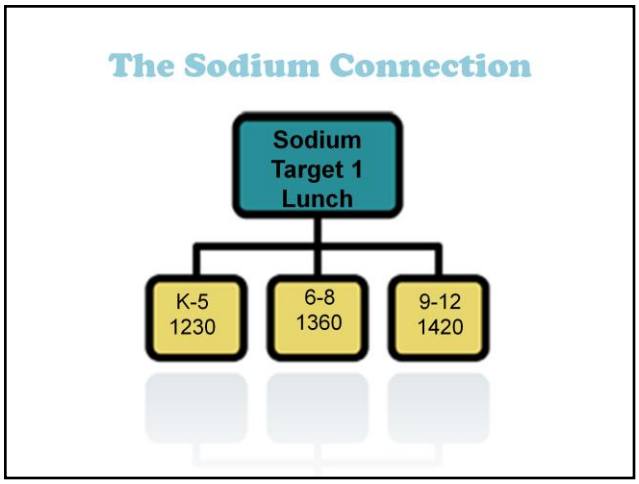
Substitute lower sodium convenience foods for higher sodium convenience foods. Many soups, vegetables juices, and canned products now come in low sodium versions. Choose snacks with less than 140 mg sodium per serving.

Be aware of high sodium condiments such as salad dressing, catsup, BBQ sauce, soy sauce, and mustard. Serve condiments less often or use them sparingly. Request that high sodium condiments be served on the side at restaurants. Better yet, ask for oil and vinegar on your salad!

Experiment with seasoning blends and herbs to flavors foods. Low sodium seasoning blends can be purchased pre-blended or easily made and stored.

Choose lower sodium store-bought breads. Purchase corn tortillas over flour tortillas since they are naturally lower in sodium.

These simple tips can help you lower sodium in your diet without sacrificing taste.



Activity 4: The Sodium Connection

For many sponsors, menu planning is more of a challenge with the sodium targets in place. Why do you think that is? *Allow participants to respond*. Let's practice planning school meals with the Target 1 levels for sodium in mind.

Objective: For participants to plan meals for Target 1 sodium levels: 1230 mg for K-5 lunch; 1360 mg for 6-18 lunch; 1420 mg for 9-12 lunch; and 2300 mg (Dietary Guidelines for American's sodium target) for a day's worth of meals.

Supplies:

1. *Sodium Connection Worksheet located in participant's booklet*
2. *Dairy Council Food Models*
3. *4 sets of six food labels for quantity processed foods (1 set per group, copied sets are located in back of trainer manual)*
4. *Pen or pencil*

Procedure:

1. *Divide the participants into 4 groups.*
2. *Ask them to turn to the Sodium Connection worksheet in the Participant's Booklet.*
3. *Assign each group a different Target 1 sodium level for a lunch meal. These are the three sodium targets for lunch, K-5 - 1230 mg, 6-8 – 1360 mg and 9-12 – 1420 mg . Instruct each group to record their assigned sodium level at the top of the worksheet. Assign one group (maybe a group of managers) to try to come up with a day's worth of meals to total no more than 2300 mg. (Note: the 2300 mg sodium target is for the whole day so the group that has been assigned this will need to plan food intake for the whole day.)*
4. *Allow each group about 15 minutes to plan a meal for the assigned sodium level.*
5. *At the end of the 10 minutes ask each of the groups to share the menus that were planned for the assigned sodium level.*

Estimated Time:

15 minutes

More Than Just Table Salt

- Table salt
- Kosher salt
- Sea salt
- Pickling salt
- Seasoned salt
- Salt substitutes/light salt

Salt is available in various crystal sizes and shapes, each with different purposes.

Table salt is a fine-grained salt that often contains an anti-caking ingredient, such as calcium silicate, to keep it free-flowing. It is available iodized or non-iodized. This type of salt is mainly used in cooking and at the table.

Kosher salt contains no additives and has a coarse grain. Gourmet cooks often prefer the texture and flavor of kosher salt in cooking. It is frequently used in the preparation of kosher meats.

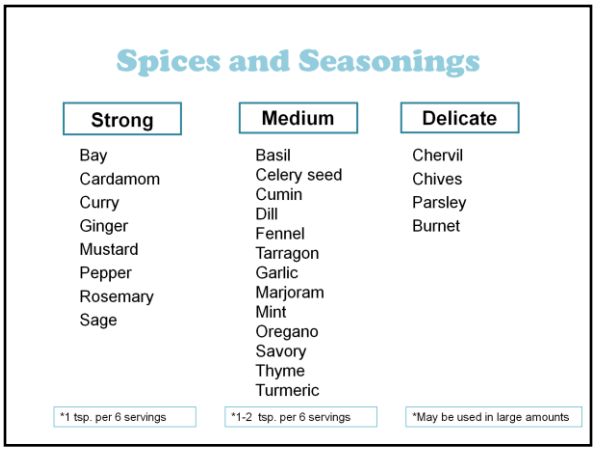
Sea salt comes in either fine or coarse grain and has a slightly different taste caused by other minerals it contains. It is produced by evaporation of sea water and is often named after the originating sea—Black Sea, French, or Hawaiian sea salt. Salt connoisseurs prefer sea salt for table use because they claim it has a more subtle flavor.

Pickling salt is a fine-grained salt used for brines to make pickles and sauerkraut. It contains no iodine or anti-caking ingredients, which would make the brine cloudy.

Specialty salts, such as popcorn salt, pretzel salt, or margarita salt, are salts of various grain sizes and textures used for special purposes. Often, other types of salt, such as table salt or kosher salt, can be substituted for these specialty salts with similar results.

Seasoned salt is a salt blend that includes herbs and other seasoning ingredients. Because of the added flavor ingredients, this may allow for use of less seasoned salt as compared to other types of salt. This may be referred to as “light” salt for that reason.

Salt substitutes, also referred to as light salts, typically replace all or some of the sodium with another mineral, such as potassium or magnesium.



Seasoning with herbs, spices, and vinegars is a healthy way to enjoy great taste without salt. Almost all spices, herbs, and vinegars are low in sodium or are used in such tiny amounts that they don't add a significant amount of salt to food.

Strong or dominant flavors. These should be used with care since their flavors stand out. Use approximately one teaspoon for six servings. They include bay, cardamom, curry, ginger, mustard, pepper (black), rosemary, and sage.

Medium flavors. A moderate amount of these is recommended, one to two teaspoons for six servings. They include basil, celery seed and leaves, cumin, dill, fennel, tarragon, garlic, marjoram, mint, oregano, savory, thyme, and turmeric.

Delicate flavors. These may be used in large quantities and combine well with most other herbs and spices. This group includes chervil, chives, parsley, and burnet.

There are many different types of herb blend combinations. You can find a variety of blends at the supermarket or from your vendors. It is also very simple to make your own which we will do in just a minute. Please refer you to the *Add a Little Spice (& Herbs) to Your Life* handout in your Participant Booklet. The handout is an excellent resource for cooking and storing, herbs as well as creating flavor combinations with herbs and spices. *If time allows review handout with participants.*

Trainer Note: A copy of this slide is included in the Participant Booklet.

Activity 5: Make It and Shake It (Optional-see note)

Note*: If you choose not to conduct this activity, refer participants to the Salt Free Recipe handouts in the participant booklet.*

Supplies:

1. *Mexican Seasoning & Saltless Surprise Recipes located in Participant's Booklet.*
2. *Ingredients from each recipe*
3. *Measuring spoons*
4. *Snack size baggies (4-6, depending on class size)*
5. *Plastic knife for leveling off the spice measurements*

Procedure:

1. *Divide the participants into 4-6 groups. Depending on the size of class, the groups should have approximately 3 participants per group.*
2. *Assign each group 1 of the 2 recipe selections. (Ex: if there are 4 groups, assign 2 groups the Mexican Seasoning Recipe and 2 groups the Saltless Surprise Recipe)*
3. *Ask them to turn to the Salt Free Recipes pages in the Participant's Booklet and locate their assigned recipe.*
4. *Instruct the groups to prepare the recipe by mixing the ingredients in the snack size baggies.*
5. *After the groups are done preparing the recipes ask each group to bring their seasoning mix bag to you. From the roster randomly select participants to receive the seasoning mix as a door prize. Ex: if there were 4 groups, then select 4 winners.*

Estimated Time:

10 minutes

Gradually Reduce Sodium In School Meals

- Recondition taste buds.
- Prepare more school-made items.
- Make soups and sauces from scratch.
- Modify recipes to remove or reduce salt.
- Ask for input from staff
- Use low sodium versions of ingredients.

As we said earlier, gradual reductions in sodium will make it easier for customers to accept foods with less sodium. An individual's preference for salt is not fixed. After consuming foods lower in sodium for a period of time, taste for salt tends to decrease. Recondition the taste buds to prefer other flavors by decreasing the use of sodium gradually.

Prepare more school-made items and use less of the processed type. Make soups and sauces from scratch with unsalted, defatted stocks.
School-made recipes can be modified to remove or reduce added salt. Include training for preparing the modified recipe so salt is not accidently added to a familiar recipe that has been modified. During the recipe modification process, ask for input from all food service staff, especially those who will actually prepare the product.

Use low sodium versions of ingredients such as cheese sauces, canned foods, tomato sauce, and tomato paste.

Gradually Reduce Sodium In School Meals, *cont.*

- Use herbs, spices, zests, or juices to flavor.
- Offer salt-free seasonings.
- Try dry mustard or Tabasco on egg dishes.
- Serve condiments and dressings less often.
- Pre-portion condiments.
- Avoid serving pickles.

Use fresh or dried herbs, spices, citrus zests, or fruit juices to jazz up the flavors of foods without adding sodium. Purchase herbs and seasoning powders, rather than salts (e.g., onion powder instead of onion salt). Make your own herb blends, vinegars, and spicy seasoning mixes. Offer salt-free seasonings to customers as an alternative to salt. Try a little dry mustard or a dash of Tabasco Sauce on egg dishes instead of salt.

Serve dressings, catsup, and other condiments that are high in sodium less often. When they are served, consider pre-portioning them. Serve smaller amounts of condiments, such as catsup, relish, and salad dressing. Pickles are a high sodium food often offered an accompaniment to hot and cold sandwiches and should be eaten in moderation.

Gradually Reduce Sodium In School Meals, *cont.*

- Cook vegetables w/o adding salt.
- Rinse canned vegetables.
- Cook vegetables to preserve quality.
- Serve more fresh vegetables.
- Limit high sodium items on food/salad bars.

Prepare and cook vegetables without adding salt or butter. Rinse canned vegetables in clean water to remove some of the sodium used in the canning process. Do not use the old trick of adding baking soda to retain the bright color of green vegetables. Baking soda depletes vegetables of nutrients. Instead, cook vegetables for the appropriate length of time to retain color and preserve quality.

Another option is to serve more fresh vegetables. Salad bars and food bars are a great way to encourage consumption of fresh vegetables, but remember to limit those high sodium items!

Gradually Reduce Sodium In School Meals, *cont.*

- Serve grilled chicken breast in meals.
- Offer fresh fruits.
- Use fruits to flavor foods.
- Add lemon to water that is used to boil pasta, rice, beans, and cereals.
- Use corn tortillas in recipes.

Serve grilled chicken breast instead of high sodium luncheon meats, bacon, or sausage.

Offer a variety of colors of fresh fruits or use fruits to add flavor to foods. Add lemon rind or juice, in place of salt, to water that is used to boil pasta, rice, beans, and hot cereals.

Gradually Reduce Sodium In School Meals, *cont.*

- Avoid serving cheese daily.
- Pre-portion cheese servings.
- Work with vendors to find lower sodium versions of popular foods.
- Offer high sodium menu items less often.
- Balance out the week!

Cheeses are often high in sodium and should not be served everyday. When cheese is offered it should be pre-portioned.

Work with your vendors and ask for their assistance in locating foods that are lower in sodium. Initially some of these items may be hard to find. As the demand for lower sodium items increases, availability will increase. Manufacturers will react to the new demand in the marketplace and offer more foods that meet this demand.

Identify high sodium foods and offer less often (pizza, chicken nuggets, and hot dogs). Balance out the week!

I would like to leave you with one last tip for lowering sodium in school meals: Offer lower sodium versions of popular menu items and recipes at the beginning of a school year. Students may hardly notice the difference. Be “sodium savvy” and help students enjoy the taste of the food instead of the salt!

Ask participants by show of hand who is incorporating some of these strategies already. You can also ask participants to offer other suggestions for lowering sodium in school meals.

Use High Sodium Foods in Moderation and Balance Through-Out the Week

- Entrées: (>1000 mg/serving)
  - Pizza
  - Hot Dog/Corn Dogs
  - Ham & Deli Meats
  - Sausage
  - Soups
- Salad dressings: (>300 mg/oz)
- Pickles: 3 slices (250 mg)
- Salt: 1 tsp (2360 mg)
- Catsup: 1 oz (350 mg)

High sodium food include . . *Read from the slide.*

Many schools do not have additional salt available for students. Great policy! Other schools have limited access to one or two salt shakers. This practice tends to add about 200 mg of sodium ***per week*** per student. It's doable, although **not** preferable. The use of salt packets – either self-serve or served on trays should be avoided. They substantially increase the sodium, providing at least 230 mg of sodium per packet per meal.

*** If possible show participants a 1 oz. packet of catsup.*

Additional Trainer Notes:

- *One whole pickle provides about 1000 mg of sodium.*
- *It is not unusual for deli turkey meat to have as much or more sodium than ham.*

Activity 6: Menu Makeover

Objective: To identify high sodium menu items and replace these items with lower sodium menu items.

Supplies:

1. *How to Lower Sodium in School Meals handout located in participant booklet*
2. *Menu Makeover Activity handout located in participant booklet*
3. *Menu Makeover Activity Notes Page located in participant booklet*
4. *Pen or pencil*

Procedure:

1. *Divide the participants into 5 groups.*
2. *Assign each group 1 weeks worth of lunch menus.*
3. *Instruct the groups to review their assigned weekly menu and to make recommendations for lowering the sodium. Each group can write their suggestions on the Menu Makeover Activity Notes Page in the Participant Booklet.*
4. *Allow the participants about 10 minutes to review the menus and come up with a list of suggestions.*
5. *At the end of the 10 minutes ask each group to share their recommendations.*

Estimated Time:

15 minutes

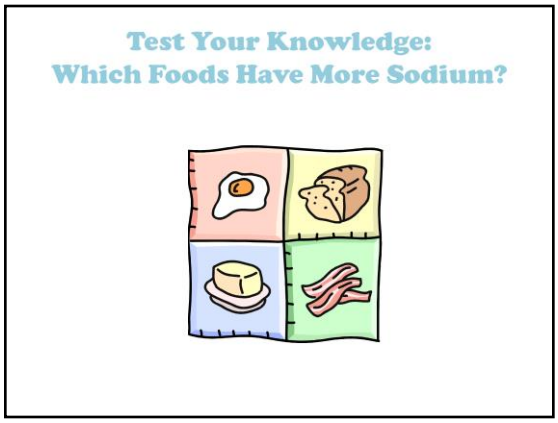
STEP UP

Illinois Team Nutrition Resource

Step Up Menu Plan

Focus on Fruits and Vary Your Veggies	Step Up Goals – Level 1	Step Up Goals – Level 2*	Step Up Goals – Level 3**	Ideas
	1. Add two new types of fruit to your cycle menu. 2. Add two new types of vegetables to your cycle menu. 3. Offer a dark green or orange vegetable or fruit two or more times a week. (linked to HUSSC list)	1. Offer a different vegetable each day of the week and count 100% vegetable juice only once per week. 2. Offer a dark green or orange vegetable+ three or more times a week using at least two different vegetables. 3. Offer one or more servings of dried beans or peas a week. 4. Offer a different fruit each day of the week and count 100% fruit juice only once per week. 5. Use fruit packed in juice or light syrup and dried fruit with no added sugar. 6. Offer fresh fruits one or more times a week. Note: A fruit or vegetable can count toward more than one goal. *See the Guidance for Dark Green and Orange Vegetables and Dry Beans and Peas for examples of dark green or orange fruits and vegetables and dry beans and peas.	1. Continue to follow action steps from Level 2. 2. Offer fresh fruits two or more days a week.	1. Add navy beans, black beans or garbanzo beans to soups. 2. Cut a kiwi fruit in half and serve with a spoon. 3. Serve fresh fruits kabobs or chunks with nonfat honey yogurt dip. 4. Use a lettuce mix with Romaine lettuce, spinach and/or carrots. 5. Serve ratatouille – a vegetable ragout - made famous by the popular animated movie. 6. Serve oven-roasted sweet potato wedges. 7. Serve steamed broccoli with lemon/garlic seasoning and butter flavored seasoning. 8. Vary your salad bar by adding garbanzo beans or kidney beans; fresh cauliflower, broccoli, spinach, peppers, radishes, cucumbers, tomatoes and frozen peas. Add dried fruits to salads and breads.

Refer participants to the STEP UP Illinois Team Nutrition Resource located in the Participant Booklet. If time allows review the resource with participants. Explain to the participants that the STEP UP plan can help them to get started with lowering the sodium in their school menus if they haven't already done so.



Activity 7: Test Your Knowledge

Supplies:

1. *Test Your Knowledge Worksheet located in participant booklet*
2. *Pen or pencil*

Procedure:

1. *Divide the participants into groups of two or allow them to work on their own.*
2. *Ask them to turn to the Test Your Knowledge worksheet in the Participant Booklet.*
3. *Allow the participants about 4 minutes to answer the questions.*
4. *At the end of the 4 minutes, review the answers as a group. Discuss the answers and ask the participants which ones surprised them the most. If time allows, you could ask them how they could make lower sodium choices.*

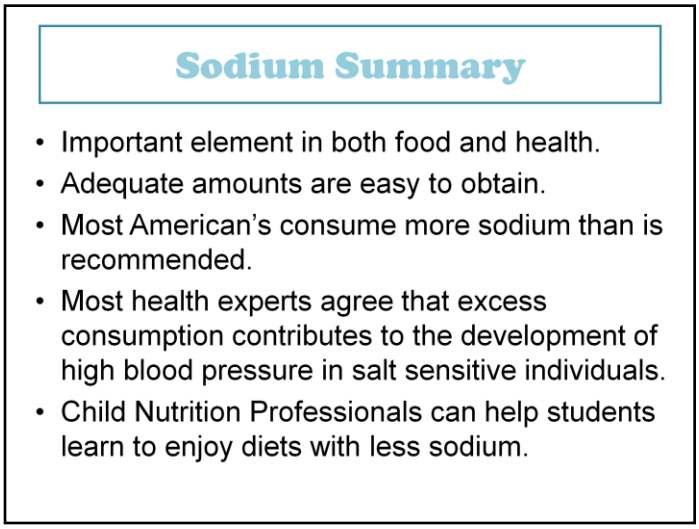
Answers:

1. TV dinner, 742mg • **Chicken noodle soup, 1,106mg**
2. Manhattan chowder, 578mg • **New England, 992mg**
3. **Instant oatmeal, 377mg** • Quick-cooking oatmeal, 1mg
4. **Bagel, 700mg** • Doughnut, 257mg
5. Salted nuts, 190mg • **English muffin, 290mg**
6. Shredded wheat, 5mg • **Raisin bran, 360mg**
7. **Chicken sandwich, 957mg** • Filet of fish sandwich, 615mg • Hamburger, 534mg
8. **Instant pudding, 357mg** • Regular pudding, 88mg
9. **Olives, 153mg** • Raisin bread, 111mg
10. Pina Colada, 130mg • **Bloody Mary, 1548mg**
11. Swiss cheese, 75mg • **American cheese, 406mg**
12. French fries, 265mg • **Ketchup, 356mg**
13. **Cornbread, 451mg** • Dinner roll, 134mg
14. Pork chop, 40mg • **Ham, 1,275mg**
15. Corn tortilla, 3mg • **Flour tortilla, 234mg**

Note to Trainers: *Also mention the "Did You Know?" handout in the Participant Booklet. The handout contains some more interesting facts about the sodium content in food.*

Estimated Time:

10 Minutes



Sodium is an important element in both food and health. It plays various roles in food as a component of salt and other ingredients, such as enhancing flavor of foods, assisting in food preservation and safety, and helping to improve the texture, tenderness, and stability of foods.

For life and good health, sodium is an essential mineral that the body requires in adequate amounts to help balance fluids in the body, maintain blood volume and blood pressure, and assist with nerve transmission and muscle contraction. Adequate amounts of sodium are easy to obtain from food. However, most people in the U.S. and in most countries around the world consume more dietary sodium than is recommended, which may be associated with adverse health effects, especially when combined with other factors such as obesity and deficiencies of key minerals.

The study of dietary sodium and health in recent years has improved the understanding of the dietary sodium-blood pressure relationship. As a result, there is wider consensus that limiting sodium intake is beneficial for many people. Although studies investigating the effects of varying levels of sodium intake on blood pressure have produced mixed results, most health experts believe that excess sodium contributes to development of the disease in salt sensitive people. Additionally, reducing sodium intake as part of an overall calorie-controlled diet that is rich in potassium, calcium, and magnesium appears to be an effective dietary strategy in the treatment of high blood pressure.

The great thing about being a Child Nutrition Professional is that you can help students learn to enjoy a healthy diet by offering food with less sodium and by encouraging more fruits, vegetables, whole grains and low-fat dairy products. By learning to enjoy a healthy diet, students can develop a life-long pattern of healthy eating habits that can help to decrease their risk of developing certain chronic diseases (including high blood pressure) during adulthood.