



TRACKS Lesson Plan

Sodium

Cut the Salt!

Grade: 9-12

I. Nutrition Education Objective:

A. **Goal 1:** Students will comprehend concepts consistent with USDA guidance related to eating and physical activity for good health.

1. **Objective:** As a result of Pennsylvania's SNAP-Ed plan, students will know, understand, analyze, and apply concepts, as developmentally appropriate, that are consistent with USDA guidance about the benefits of:

1. Limiting foods high in fat, sodium, and added sugar.

II. Pennsylvania Educational Standards:

A. 2.5 Mathematical Problem Solving and Communication

B. 10.1 Concepts of Health

C. 10.2 Healthful Living

D. 11.3 Food Science and Nutrition

III. Outcomes:

A. Students will explain the health benefits of reducing sodium in their diets.

B. Students will identify common sources of sodium in foods.

C. Students will state the recommended amounts of sodium.

D. Students will read food labels to choose lower-sodium products.

IV. Materials:

A. Laptop/Projector with PowerPoint presentation

B. Visual: The Salt Case (eNASCO) or other display showing the amount of salt in various foods. Laminated food labels

C. Handouts: "Cut the Salt" worksheet

D. Food Tasting

E. Reinforcement that conveys the appropriate nutrition message.

F. Caregiver newsletter: Sodium

G. Hand Wipes

H. Extension lesson for the teacher

V. Procedure:

A. *Introductory:*

1. Lesson introduction and introduction of nutrition educator

2. Review of last lesson, if applicable

3. Brief introduction about the workshop and its importance to high school students: Sodium is an essential nutrient, but most Americans consume too much. Students will learn about sodium, its sources, and the health benefits of reducing sodium consumption.

B. Developmental:

1. **Slide 1: Cut the Salt!**

2. **Slide 2: Project Sponsors**

3. **Slide 3: What is Sodium?** *Ask students: "What is sodium?" Solicit responses.* Sodium is a mineral, just like calcium and potassium. Minerals are inorganic elements that come from the soil and water and are absorbed by plants or eaten by animals. Sodium is commonly found in table salt and in foods. It is an essential nutrient, which means that our bodies need to have a certain amount in order to be healthy. However, most Americans consume too much sodium!

4. **Slide 4: Importance of Sodium –**

1. *Explain to the students:* While most Americans consume too much sodium, it is an essential nutrient. Essential nutrients are necessary in the diet for the body to optimally function.

2. *Ask the students:* Does anyone know what important jobs sodium has in the body?

Sodium has an important role in maintaining the water balance within cells and in the function of both nerve impulses and muscles.

3. *Ask the students:* Does anyone play a sport or engage in physical activity?

Mention to the students that sweat creates an opportunity for the body to lose sodium and it should be replenished. Athletes are often concerned about not getting enough sodium to replace what is lost through sweat; yet, sodium losses are easily replenished at the next meal.

5. **Slide 5: High Blood Pressure & Edema –**

1. People who consume more sodium tend to have higher blood pressure. Keeping blood pressure in the normal range lowers a person's risk of cardiovascular disease, congestive heart failure, kidney disease, and stroke.

2. *Ask the students:* Has anyone ever felt bloated after eating foods with a lot of sodium? This could also be swelling of the hands/fingers, feet and toes, etc. Sodium can create edema or water retention. This retention is not necessarily long-term or permanent; rather, it is often a short-term result of increased salt intake.

6. **Slide 6. How much is too much?**

1. *Ask the students:* How much sodium should we eat daily?

Solicit responses: None of us should consume more than 2,300 milligrams (about 1 teaspoon of table salt) of sodium in a day.

2. This recommendation is even lower, 1500 mg sodium, for people who have certain risk factors for high blood pressure.
3. *Ask the students:* What is a “risk factor”?

Solicit responses: A risk factor is a characteristic a person has that increases their chances of getting a particular disease or condition. People who have risk factors for high blood pressure include those who are 51 years old and older, African Americans, people who already have high blood pressure, and people with diabetes or kidney disease. Anyone with one or more of these risk factors should consume no more than 1,500 milligrams of sodium in a day.

7. **Slide 7: How Much do We Eat?** *Ask the students:* How much sodium do you think the average American consumes?

Solicit responses. The average American consumes 3,400 milligrams of sodium each day. This is more than twice the recommended amount of 1,500 milligrams for people with high blood pressure or risk factors, and significantly more than the 2,300 milligrams recommended for the rest of us.

8. **Slide 8: Where is the Sodium?** *Ask the students:* Where do we get sodium in our diets?

Solicit responses and guide the students toward the following answers:

1. Salt shaker: Many people think that we only get sodium from the salt shaker. *Ask the students:* Does anyone add salt to their food before even tasting it? This habit can easily lead to eating too much sodium. Always taste food first, before adding salt to see if it is really needed.
2. Everyday foods: Although it is important to decrease our reliance on salting our food, it’s also surprising how much sodium is already in some everyday foods. Examples include bread, canned foods, frozen dinners, any dinner that comes in a box, and food purchased from restaurants or fast food joints.
3. *Show the students the Salt Case or another display that shows the amount of salt in various foods.*

9. **Slide 9: Ways to Reduce Sodium** – One of the best ways to reduce sodium is to eat foods that were prepared at home from scratch! When we assemble meals from fresh or frozen fruits and vegetables, unseasoned grains, and fresh protein foods, we avoid all the sodium that comes in boxed, canned, and restaurant foods. Other tips include:

- Filling up on fruits and veggies, which have very little sodium unless it was added during the canning process for canned foods
- Choose low-fat milk and yogurt more often than cheese: all of these foods are important sources of calcium in our diet, but cheese is typically the highest in sodium

- Choose low-sodium condiments, such as low-sodium ketchup and low-sodium soy sauce.

10. Slide 10: Ways to Reduce Sodium – Another great way to reduce sodium is to read the label! If purchasing canned vegetables or beans, look for a label that says “no salt added” on the front. For any packaged food, look for the Nutrition Facts Label. Look for the % Daily Value of sodium that should be about halfway down the label. Compare products to make that number as low as possible!

11. Slide 11: Ways to Reduce Sodium – Reading the ingredients list on a food label can help determine whether or not a product has salt. Also, within an ingredient list, ingredients are listed from most to least, which is helpful when identifying how much of the product contains sodium. Yet, be careful when looking for the word salt or sodium, as it may not always appear clear. Here are a list of words that may be used to identify sources of sodium:

<ul style="list-style-type: none"> ▪ sodium alginate ▪ sodium ascorbate ▪ sodium bicarbonate (baking soda) ▪ sodium benzoate ▪ sodium caseinate ▪ sodium chloride ▪ sodium citrate ▪ sodium hydroxide 	<ul style="list-style-type: none"> ▪ sodium saccharin ▪ sodium stearoyl lactylate ▪ sodium sulfite ▪ disodium phosphate ▪ monosodium glutamate (MSG) ▪ trisodium phosphate ▪ Na
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12. Slide 12: Ways to Reduce Sodium – Understanding label claims. When looking at a product label, it may indicate a food is low in something or reduced. *Ask the students: “What does this mean?”*
Go through the bulleted claims on the PowerPoint (listed below). Ask the students if they or anyone in their household chooses specific food products with any of these claims (salt-free, low-sodium, etc.):

- **Sodium-free:** Less than 5 milligrams of sodium per serving
- **Very low-sodium:** 35 milligrams or less per serving
- **Low-sodium:** Less than 140 milligrams per serving
- **Reduced sodium:** Sodium level reduced by 25%
- **Unsalted, no salt added, or without added salt:** Made without the salt that's normally used, but still contains the sodium that's a natural part of the food itself.

13. Slide 13: Potassium – *Ask the students:* What is potassium or where might they have heard of it before?
Solicit responses: Potassium is a very important **mineral** for the proper function of all cells, tissues, and organs in the human body. It is an **electrolyte**... a substance that conducts electricity in the body, along with

sodium, chloride, calcium, and magnesium. Potassium is vital for heart function and plays a key role in skeletal and smooth muscle contraction.

14. Slide 14: Eat More Potassium! While reducing sodium consumption is important for a healthy blood pressure, so is increasing potassium consumption. Sodium and potassium are two different minerals in our bodies. Our blood pressure has the best chance of staying in a healthy range if these two minerals are in the right balance in our bodies. Although most of us eat too much sodium, we also tend to eat too little potassium. Great sources of potassium are fruits, vegetables, and milk. Eat lots of these to help keep your blood pressure healthy!

15. Slide 15: Good Sources of Potassium – *Ask the students:* Does anyone eat the foods listed on this slide? Do some of the foods listed have high amounts of sodium? If they do, what could the students do in order to gain the benefits of a good potassium source, but limit their intake of sodium to appropriate levels (opt for low-sodium products, if using canned beans drain the beans with cold water, etc.)?

Listed are good sources of potassium:

<ul style="list-style-type: none">▪ Potato, baked, w/ skin▪ Tomato paste▪ Plain yogurt▪ Sweet potato▪ Clams, canned▪ Orange juice, fresh▪ Halibut, cooked▪ Soybeans, cooked▪ Tuna, yellowfin, cooked▪ Lima beans, cooked▪ Cod, Pacific, cooked	<ul style="list-style-type: none">▪ Low-fat milk▪ Bananas▪ Spinach, cooked▪ Tomato sauce▪ Peaches, dried▪ Apricots, dried▪ Pinto beans, cooked▪ Pork loin, lean, roasted▪ Lentils▪ Plantains▪ Kidney beans, cooked
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16. Slide 16: Review – *Recap the take-home messages to the students:*

- Sodium is an essential nutrient
- Americans often get too much
- Be mindful of salt/sodium intake to preserve a healthy heart and optimal health
- Read labels for the amount of sodium in the foods you eat and on the next grocery store trip – try to find different foods with less sodium
- Share this information with your caregiver or household members
- Add foods with potassium to encourage a healthy heart – such as bananas, potatoes, and fish

17. Slide 17: Questions? and Thank You

C. Activity

1. Distribute a laminated food label to a group or pair of students (chips, bread, granola bars, soup, noodles, etc.). Distribute handout “Cut the Salt!”.
2. Ask the students to look at their product, examine the Nutrition Facts label, and ingredients list. Have them fill out the activity, questions #1-4
3. For question #5, have one student from each group come up to the front of the room. The students will line themselves up with the food package containing the least amount of sodium to the highest amount of sodium.
4. Discuss with the students – what are some products they were surprised to see ranked higher or lower? For example, some cereals or baked snack goods are higher than other foods – does this make them less healthy? Explain that just because the sodium level might be slightly higher, it is important to examine the ENTIRE Nutrition Facts label. When selecting foods, it should be about looking at the whole picture.

VI. Conclusion:

- A. Distribute hand wipes.
- B. Provide each student with a food tasting and encourage him or her to make small changes their diet. Explain why this food is a healthy option.
- C. Distribute the reinforcement, read the message, and/or explain the reason why they are receiving a reinforcement.
- D. Thank the students for their participation and answer any questions the students have.
- E. Distribute Caregiver Newsletter

VI. Extension Lessons:

- A. About the Buzz Sodium
- B. DASH Eating Plan
- C. Sodium Crossword Puzzle



Funded by the Pennsylvania (PA) Department of Human Services (DHS) through PA Nutrition Education Tracks, a part of USDA's Supplemental Nutrition Assistance Program (SNAP). To find out how SNAP can help you buy healthy foods, contact the DHS toll-free Helpline at 800-692-7462 or 215-430-0556. USDA is an equal opportunity provider and employer.

Cut the Salt!

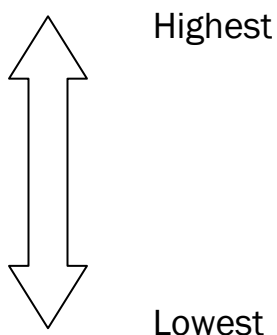


1. How many total milligrams (mg) of sodium are in one serving?
2. How do I find out how many total milligrams (mg) of sodium are in the entire package (or box)?

_____ x _____ = _____ mg

3. What is the %DV for sodium in one serving? _____
4. What is the %DV for sodium in the entire package? _____

5. Compare the results with your classmates. Below in the space provided, rank the products from the one with the least amount of sodium to the highest amount of sodium.



6. What did you find surprising about the products? Did you think some of the products would be ranked differently than others?



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