

HAVE AN IRON WILL

Target Audience:

Adults

Lesson Creators:

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Purpose:

The purpose of this lesson is to help the participants to discover ways to increase foods with iron in their diet.

What the Nutrition Educator Needs to Know So That Participants' Questions Can be Answered:

Iron is a mineral in food that can help your body do a lot of different things. Iron helps carry oxygen in the blood. Iron can also help fight infections. Iron is needed in the diet keep our body healthy.

Not enough iron in the diet can cause something called iron deficiency anemia. Anemia occurs when there is not enough iron in the body. It can make you feel weak and tired. It can also make it hard to breath. Many people who do not always have enough food to eat or run out of food can have anemia. Many low income women, especially pregnant women and children have low levels of blood iron or suffer from anemia.¹ Some signs of anemia are pale skin, swollen tongue, feeling dizzy, low energy, and not being able to pay attention.² More tests should be done if you have these symptoms to see if you have anemia.

People at every age need iron in their diet but not all people need the same amount. People that have lost a lot of blood and women who are menstruating need to make sure they are getting enough iron. Pregnant women also need to make sure they get more iron. Pregnant women need more iron for themselves and for the baby they are carrying.² Children and teens need to be aware of how much iron they get in their diet. Many teenage girls have low amounts of iron in their blood.²

The chart below shows you how much MyPlate says you should get each day.³

RECOMMENDED IRON INTAKE

AGE	Female	Male	Pregnancy	Lactation
1-3 years	7 mg	7 mg		
4-8 years	10 mg	10 mg		
9-13 years	8 mg	8 mg		
14-18 years	15 mg	11 mg	27 mg	10 mg
19-50 years	18mg	8 mg	27 mg	9 mg
51 + years	8 mg	8 mg		

The chart below shows approximately how much iron is found in certain foods. ⁴

FOOD, SERVING SIZE	AMOUNT OF IRON PER SERVING
Chicken liver (3 ounces)	11.0 mg
Oysters (3 ounces)	6.7 mg
Beef liver (3 ounces)	5.2 mg
Iron fortified cereal (3/4 cup)	18.0 mg
Fortified Instant Oatmeal (1packet)	11.0 mg
Beans (1 cup)	4.0 mg
Ground Beef (3ounces)	2.2 mg
Pork Chop (3 ounces)	0.7 mg
Canned Tuna (3 ounces)	1.3 mg
Egg (1 large)	.87 mg
Broccoli cooked (1 cup)	1.05 mg
Chicken (1/2 breast)	.89 mg
White Bread (1 slice)	.9 mg

Foods that have a lot of iron are meats and organ meats like liver and kidney. Some foods like vegetables or grains might have more iron but the iron in meat is easier for your body to use.

Vitamin C helps the body to use iron from all sources.³ To get the most iron that you can from all of your foods try drinking orange juice or cranberry juice with iron rich plants, like leafy greens or the foods listed above.

Certain foods, like breads and cereals, are fortified with iron. Check the Nutrition Facts Label on your favorite cereals to see if they are higher than 50% iron per serving.

Calcium and phosphate, which is in soda, can decrease the iron absorption in the body. Make sure not to drink milk with an iron rich meal. Drink milk either before or after iron rich meals. ⁵

Certain foods may lower how much iron your body gets. Taking in coffee, fiber like the kind in whole grain foods, antacids, or aspirin with an iron rich meal can affect how much iron your body gets from your food. Also, more than 6 cups of tea per day will lower the amount of iron your body can get from your food. Be careful not to eat or drink too much of these products with a foods that are high in iron. ⁵

Too much iron in the diet can also be harmful. This is usually a problem for men and post-menopausal women who take supplements. They should take supplements with little or no iron. Be sure to be familiar with how much iron you are supposed to get in your diet and do not have more than that. Mostly someone under 14 years of age should not have more than 40 mg and over 14 years of age no more than 40 mg.⁵

References:

1. Clark, S.F. *Iron Deficiency Anemia*, Nutrition in Clinical Practice, 23(2), 128-41. April 1, 2008. At: <http://ncp.sagepub.com/content/23/2/128.full>
2. Anemia. *U.S. National Library of Medicine*. PubMed Health. 2011. At: <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001586>
3. *Iron. Dietary Supplement Fact Sheet*. National Institute of Health. February 2015. At: <http://ods.od.nih.gov/factsheets/Iron-HealthProfessional>
4. National Nutrient Database for Standard Reference, Release 24. Nutrient Data Laboratory Home Page. U.S. Department of Agriculture, Agricultural Research Service. 2011. At: <http://www.ars.usda.gov/ba/bhnrc/ndl>.
5. Anderson, J, Fitzgerald, C. *Iron and Essential Nutrient*. Fact Sheet. Colorado State University Extension. 2010. At: <http://www.ext.colostate.edu/pubs/foodnut/09356.html>

For Additional Reading:

Dietary Guidelines for Americans, 2015. U.S. Department of Agriculture and U.S. Department of Health and Human Services. 7th Edition. 2010. At: <https://health.gov/dietaryguidelines/2015/guidelines/>

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Main Themes:

Nutrition & Diet

Cooking & Food Storage

Shopping

Budgeting

Safety & Sanitation

Materials Needed:

To make the Iron Display:

230 Large Nails, 7 glass jars, Masking tape, Markers

Put together and label as below:

Jar #1 : 100 nails	“Amount of Iron You Should Have Every Day”
Jar #2 : 30 nails	“One Serving Of Beef”
Jar #3 : 10 nails	“One Serving Of Chicken”
Jar #4 : 50 nails	“One Serving Of Baked Beans”
Jar #5 : 10 nails	“One Serving Of Corn”
Jar #6 : 40 nails	“One Serving Of Iron- Fortified Cereal”
Jar #7 : 10 nails	“One Serving Of Oatmeal”

Poster board and easel

“High Iron Foods” Handout

10 different canned foods:

- Get ten different canned foods from the supermarket. Try to get some variety. For example, a can of soup, tuna, baked beans, canned vegetables, canned fruits, and a canned dinner.

5 pictures of food on 5 poster boards OR Food models of 5 foods:

- Mount five pictures of different foods on separate poster boards. Make sure you know how much iron is in each food. Label the pictures 1 through 5 randomly. Do not put them in order based on their iron content. If you have access to Nasco food models, use them instead. Again, make sure to use foods that you know or can find the iron content of.

2 index cards

2 pencils

Time the Activity is Expected to Take:

Activity 1: 10-15 minutes

Activity 2: 10-15 minutes

Activity 3: 15-20 minutes

Next Week’s Goals: 5 minutes

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Lesson Plan:

Before you begin:

1. Ask the participants if they worked on their goals from the last lesson. Ask them which goals they worked on and how or what they did to work on them. Try to get people to tell the class what they did. If they did not work on the goals, ask them to work on them before the next class.
2. Tell the participants what the objectives are for today's lesson.

Activity 1: “Nailing Down the Topic of High Iron Foods” (10-15 minutes)

1. Hold up the jar labeled “Amount of Iron You Should Have in One Day”. Tell the participants that each nail stands for 1% of the iron that they need each day. Explain to them that there are 100 nails in the jar and that stands for 100% of the iron for the day.
2. Tell the participants that they can think of the nails as iron because iron holds the blood cells together in the body the way nails hold things together.
3. Hold up each jar that has nails that show how much iron is in one serving of the food on the jar label. Tell them what each jar is and how many nails are used to stand for the amount of iron in each food.
4. Make sure to point out the difference between meat and chicken. Also, make sure to point out that some foods that are iron fortified like cereals are also good sources of iron.
5. Ask the participants to name any other foods they can think of that are high in iron.
6. Write down all foods they name that are high in iron the poster board. Use the handout at the end of the lesson to decide which foods are high in iron. Remember that any nutrient that is 20% or more on the label is a good source of that nutrient. Anything with 20 or more nails would be on the foods high in iron list.

Activity 2: “How CAN you Eat More Iron?” (10 – 15 minutes)

1. Pass out the cans. Give one to each participant or each group, however you wish to organize your class. Make sure everybody gets to look at one can.

2. Explain to the class that canned foods often cost less and can save you more when they are found on sale. They also have a long shelf life. Canned foods are often a good source of iron.
3. Have each person or group read the number on the label where it says “Iron”, the number will be in percentages.
4. Explain that they should think of 1 nail as 1 percent of iron they need each day. To get the iron they need each day, the participants need to get 100 ‘nails worth’ of iron. The percent of iron listed per serving is equal to that amount of nails. For example, if the product contains 23% of the daily iron, that is equal to 23 nails per serving of the product. Participants should aim for 100 ‘nails worth’ of iron daily. They can add up the amount of iron in their food each day so that they know how much iron they eat for the day.
5. Remind the participants that there can be more than 1 serving in a can or package. They have to look at the Nutrition Facts Label to see how many servings are in a can or package. If the package contains 2 servings, then there is twice as much iron in the package if they eat the whole package.
6. Ask the participants what kind of canned foods they eat. List them on a clean sheet of poster board.

Activity 3: “Mix and Match Iron” (15 -20 minutes)

1. Divide the room into two groups. Hand out one index card and a pencil to each group.
2. Arrange the food pictures or models in number order in front of the room.
3. Tell the groups to write down the order, from highest to lowest iron content. For instance, if they think picture number 4 has the most iron, they should put it at the top and so on, until all five numbers are listed in the order they think is right.
4. When the groups are done, ask each group to hold up their cards.
5. If neither group is right, tell them to try again. If one is right, congratulate that group and explain each food and how much iron it has. If both are right, congratulate both groups and explain each food and how much iron it has.
6. Let each participant know that you have a handout with foods that tells them how much iron is in each food. Give one to anyone who wants one.

7. Remind the participants that though not all foods are high in iron that does not mean they do not have other nutrients that they will need for good health. They need to eat different kinds of foods to get all the nutrients they need for good health.

Next Week's Goals (5 minutes)

1. Ask the participants to name one thing that they learned in today's class that they will use. Make sure that each learning objective is mentioned, and if not, be sure to re-state that objective. Ask them to choose a related goal to work on during the week. Let them know that they will be sharing their personal experiences during the next class.
2. Invite comments, suggestions, or questions.
3. Thank the participants for coming and tell them what the class will be about in the next lesson.

For the teacher: "What makes this lesson behaviorally focused?"

- Activity 1: # 3, #5 allows the participants to get a visible representation of how much iron they need in their diet and how much iron some common foods have. Participants give some examples of some high iron foods using their own knowledge and experiences.
- Activity 2: # 4, #7 allows the participants to discover on their own how to investigate how much iron is in a particular product. Also, it gives them a better picture of how much iron they need to include in their daily diet.
- Activity 3: #4 allows the class to work together to choose or select the foods higher in iron. This activity allows the participants to again use their own thoughts and experiences to choose the correct foods.
- In Next Week's Goals, the participants are invited to name the one thing that they learned during the class that they will use. Through this activity and by reviewing the objectives again, the participants are reminded of the many topics discussed during the lesson. They will choose the behaviors that they will want to work on during the coming week.



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Good Sources of Iron



FOOD, SERVING SIZE	AMOUNT OF IRON PER SERVING
Iron fortified cereal (3/4 cup)	18.0 mg
Fortified Instant Oatmeal (1packet)	11.0 mg
Chicken liver (3 ounces)	11.0 mg
Oysters, clams, mussels (3 ounces)	7.8 mg
Beef liver (3 ounces)	5.2 mg
Cooked Spinach (1 cup)	6.0 mg
Dark Chocolate (1oz)	5.0 mg
Beans (1 cup)	4.0 mg
Chicken Liver (3 oz)	3.6 mg
Lentils (3 oz)	3.7 mg
Dried Apricots (3 oz)	2.7 mg
Roast Beef (3 oz)	2.2 mg
Ground Beef (3ounces)	2.2 mg
Peas (1 cup cooked)	2.1 mg
Nuts (1 oz)	1.7 mg
Canned Tuna (3 ounces)	1.3 mg
Broccoli cooked (1 cup)	1.05 mg
White Bread (1 slice)	.9 mg
Chicken (1/2 breast)	.89 mg
Egg (1 large)	.87 mg
Pork Chop (3 ounces)	0.7 mg

SDA National Nutrient Database for Standard Reerence: <https://ndb.nal.usda.gov/ndb/> Accessed 5/31/17

