

BEEF IN A HEALTHY DIET

Culinary Arts Standards

- 2.1 Identify food groups in the current USDA nutritional guidelines
- 2.2 Specify primary functions and sources for major vitamins and minerals (carbohydrates, protein, fats, vitamins, minerals, and water)

Student Learning Objectives

1. Compare one serving of beef to another source of protein.
2. List and describe the 10 essential nutrients found in lean beef.

Time

- 2-50 minute class periods
- Extension activities can take additional class periods

Tools, Equipment and Supplies:

- LCD projector or TV to display PowerPoint presentation
- Beef in a Healthy Diet PowerPoint presentation
- Beef in a Healthy Diet note sheet (1 per student)
- Wanted Poster learning activity (1 per student)

Resources

- Beef nutrition worksheet
- Wordsearch
- Quiz and quiz key

Introduction

Approximately 50 separate nutrients are essential to good health. No single food contains all of these nutrients. For this reason, dieticians and health providers recommend consuming a wide variety of foods daily from several different food categories. Beef can play an important part of a healthy diet.

Summary of Content and Teaching Strategies

Interest Approach List as many nutrients as you can think of (example: zinc). Circle the nutrients you think you will find in beef. PowerPoint Presentation – Beef in a Healthy Diet – this presentation is a slide show. Please review the presentation before using so you are familiar with content. Some slides include teacher notes, specifically the slides that pertain to the learning activity in the middle of the presentation. Students can complete the worksheet while viewing the PowerPoint presentation. A short outline of the presentation follows; it is important to note that a learning activity has been included in the middle of the PowerPoint presentation.

- 10 Frequently Asked Questions (FAQs) about including beef in your diet
- Learning Activity: create a “Wanted Poster” for an assigned nutrient found in beef
- Gallery Walk
- Review contributions of Beef’s Big 10 nutrients
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Lesson Conclusion

Have students revisit the activity from the lesson’s interest approach where they listed all the nutrients they could think of. Originally they circled the nutrients they thought they could get from eating beef. Have the students review their list again, and box the nutrients that fall into “Beef’s Big 10” essential nutrients that they learned about in this lesson.

In the margin of their note sheet, students can answer one or all of these questions.

1. List something new you learned.
2. Write one question you still have.
3. Describe something you still don’t understand.
4. List one thing you plan on sharing with a friend or family member.

Extension Activities

1. “Beef in a Healthy Diet” nutrition worksheet – students read about daily recommended intake for nutrients and identify what role beef plays in meeting those intake needs. After completing the worksheet, students can graph the information as well. Answers to worksheet are as follows.
 - Question 1 (Riboflavin) – 12 percent, 1.5 milligrams, .18 milligrams
 - Question 2 (Niacin) – 26 percent, 17 milligrams, 4.4 milligrams
 - Question 3 (Vitamin B12) – 33 percent, 6 micrograms, 1.98 micrograms
 - Question 4 (Iron) – 10 percent, 15 milligrams, 1.5 milligrams
 - Question 5 (Zinc) – 31 percent, 15 milligrams, 4.65 milligrams
2. Wordsearch – students can search and find 11 words related to the lesson. This could be used as a review activity. After students find all 11 words, they could list and describe what each nutrient does for the body.
3. Beef in a Healthy Diet Quiz –10-question quiz that covers information from the lesson PowerPoint. Quiz key included.



BEEF IN A HEALTHY DIET

1. Can I enjoy beef regularly as a part of a healthy balanced diet? Yes No

2. Complete the following:

_____ than 10g total fat

_____ than or equal to 4.5g saturated fat

_____ than 95mg cholesterol per 100 grams (3.5oz)

3. Is it difficult to find lean cuts of beef at the store? Yes No

4. How much beef should I eat at a meal to meet my daily protein requirements?

5. Are we eating too much meat? Yes No

6. Beef is a nutritional powerhouse delivering more nutrients in a denser package. True False

7. Are all proteins created equal? Yes No

8. Is beef bad for my heard and cholesterol? Yes No

9. Is beef the primary source of fat and cholestorol in my diet? Yes No

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BEEF IN A HEALTHY DIET

What Does it Do?

Choline	
Vitamin B6	
Vitamin B12	
Riboflavin	
Niacin	
Zinc	
Iron	
Protein	
Selenium	
Phosphorus	

My favorite wanted poster was _____ because:



BEEF IN A HEALTHY DIET

A serving of lean cooked beef is about the size of a deck of playing cards, weighs 3 ounces and has 228 calories. A 3-ounce cooked lean ground beef patty provides 46 percent of the US Daily Recommended Intake (DRI) of protein, 12 percent of the US DRI of riboflavin, 26 percent of the US DRI of niacin, 33 percent of the US DRI of vitamin B12, 10 percent of the US DRI of iron, and 31 percent of the US DRI of zinc.

Use a calculator and the information above to fill in the blanks below.

Example: A 3-ounce cooked lean ground beef patty provides **46** percent of the US DRI of protein. The US DRI of protein is **45** grams. A 3-ounce cooked lean ground beef patty provides **20.7** grams of protein.

US DRI for the Key Nutrients in Beef

Protein	45 grams
Riboflavin	1.5 milligrams
Niacin	17 milligrams
Vitamin B12	6 micrograms
Iron	15 milligrams
Zinc	15 milligrams

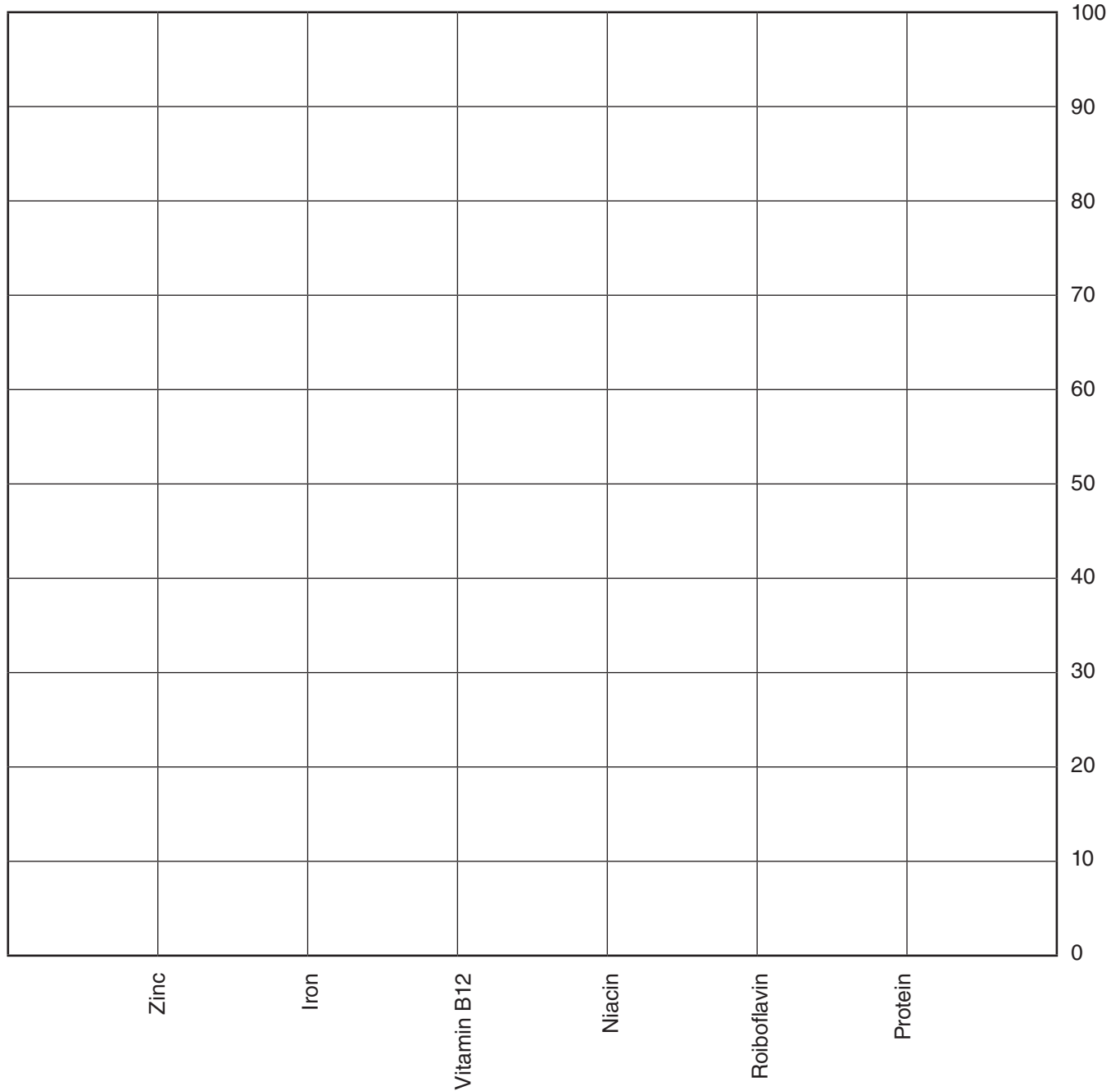
1. A 3-ounce cooked lean ground beef patty provides _____ percent of the US DRI of **riboflavin**. The US DRI of riboflavin is _____ milligrams. A 3-ounce cooked lean ground beef patty provides _____ milligrams of riboflavin. A 3-ounce cooked lean ground beef patty provides _____ milligrams of riboflavin.
2. A 3-ounce cooked lean ground beef patty provides _____ percent of the US DRI of niacin. The US DRI of niacin is _____ milligrams. A 3-ounce cooked lean ground beef patty provides _____ milligrams of niacin.
3. A 3-ounce cooked lean ground beef patty provides _____ percent of the US DRI of Vitamin B12. The US DRI of Vitamin B12 is _____ micrograms. A 3-ounce cooked lean ground beef patty provides _____ micrograms of Vitamin B12.
4. A 3-ounce cooked lean ground beef patty provides _____ percent of the US DRI of iron. The US DRI of iron is _____ milligrams. A 3-ounce cooked lean ground beef patty provides _____ milligrams of iron.
5. A 3-ounce cooked lean ground beef patty provides _____ percent of the US DRI of zinc. The US DRI of zinc is _____ milligrams. A 3-ounce cooked lean ground beef patty provides _____ milligrams of zinc.

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BEEF IN A HEALTHY DIET

Use the information from page 1 to graph the key nutrients found in a 3-ounce cooked lean ground beef patty.





QUIZ! BEEF IN A HEALTHY DIET

1. (a) How many ounces is a serving of beef? (b) What else is approximately the same size?
2. List one lean cut of beef that is easy to find at the grocery store.
3. List three of the nutrients found in beef.
4. In your own words, explain "essential amino acids."
5. Which of the nutrients in beef help repair body tissue?
6. Which of the nutrients help build muscle?
7. Which of the nutrients in beef helps promote healthy skin?
8. Which of the nutrients in beef helps red blood cells carry oxygen to and away from the body cells?
9. Which of the nutrients in beef helps turn food into energy?
10. Which two nutrients aid in normal brain function?



“WANTED” POSTER

Directions: Create a Wanted Poster for one of the 10 essential nutrients found in beef. Follow the directions on this research guide to help you find out information about the nutrient you selected. After researching your nutrient, you will create a Wanted Poster. Have fun, be creative and good luck researching!

Circle the nutrient you have chosen to research and create a Wanted poster for.

- | | | | | |
|--------|------------|---------|------------|-------------|
| Iron | Choline | Protien | Selenium | Riboflavin |
| Niacin | Phosphorus | Zinc | Vitamin B6 | Vitamin B12 |

1. Start by visiting <http://www.beefitswhatsfordinner.com/health.aspx>.
2. When eating one serving of lean beef, what percent daily value do you receive of your nutrient?
3. List five ways this nutrient helps your body. (i.e. Aids in brain development) You may visit other websites or use other resources to answer this question. If you use other resources, list the website or book you used.

4. Hand draw your character’s face using color for the final poster. Be creative in matching the attributes of your nutrient to character traits. For example, if your nutrient helps build muscles, you could draw a cartoon character that is super muscular.
5. Create your final poster using the back of this worksheet. Your poster must be neat and free from errors in grammar and spelling. Make sure to include a picture of your nutrient as well as the reasons why this nutrient helps your body.

WANTED



WORD SEARCH

AMINO ACID
CHOLINE
IRON
LEAN BEEF
NIACIN
PHOSPHORUS

PROTEIN
RIBOFLAVIN
SELENIUM
VITAMIN B
ZINC

K	H	U	P	I	X	D	N	C	R	J	M	B	A	U
W	J	P	R	M	U	I	I	I	P	U	B	N	K	Z
K	X	N	T	N	A	U	B	C	I	U	B	I	E	A
P	C	K	K	C	O	O	T	N	A	V	P	M	A	Q
R	F	Q	I	L	F	R	E	U	X	O	M	A	N	T
O	F	N	V	L	T	L	I	S	W	N	N	T	C	T
T	Q	Y	A	L	E	A	N	B	E	E	F	I	W	O
E	M	V	A	S	C	A	G	Z	Y	L	S	V	M	S
I	I	S	U	R	O	H	P	S	O	H	P	Q	Y	A
N	T	G	E	U	W	G	O	C	N	I	Z	R	K	B
O	B	I	D	C	Q	K	V	L	L	J	F	U	A	T
T	B	L	W	O	P	B	M	S	I	M	S	T	I	O
Z	W	J	H	J	E	M	C	W	I	N	H	L	Z	U
S	T	N	V	V	E	F	E	T	S	B	E	Q	U	Q
G	I	A	D	H	R	W	G	G	F	D	X	J	C	D