

Proteins: The Body's Building Blocks

7

Building Blocks of Protein

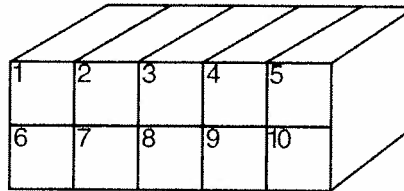
Activity A

Name _____

Chapter 7

Date _____ Period _____

Choose the best response to complete each multiple choice statement. Write the letter for each answer in the block below containing the same number as the statement. Your answers will reveal an essential component of proteins.



- _____ 1. Protein differs from carbohydrates and fats because of the _____ it contains.
A. nitrogen B. oxygen C. hydrogen D. carbon
- _____ 2. Protein makes up about _____ percent of your body.
L. 12 to 15 M. 18 to 20 N. 20 to 25 O. 30 to 40
- _____ 3. When proteins change shape and take on new characteristics, _____ has occurred.
G. balance H. completion I. denaturation J. coagulation
- _____ 4. To say the body can synthesize a compound means that it can _____ it.
L. destroy M. digest N. make O. complement
- _____ 5. There are _____ indispensable amino acids.
L. 20 M. 19 N. 11 O. 9
- _____ 6. Proteins that defend the body against infection and disease are _____.
A. antibodies B. buffers C. enzymes D. hormones
- _____ 7. The liver converts nitrogen waste from proteins into _____.
A. enzymes B. lipoproteins C. urea D. urine
- _____ 8. Plants that can capture nitrogen from the air and transfer it to their protein-rich seeds are _____.
G. grains H. hummus I. legumes J. tofu
- _____ 9. Complete proteins come from _____ sources.
A. plant and animal B. only plant C. only mineral D. only animal
- _____ 10. Two incomplete proteins that together provide all the indispensable amino acids are said to be _____.
Q. complete R. animal S. complementary T. valuable

A Billboard for Proteins

Activity B

Name _____

Chapter 7

Date _____ Period _____

In the space provided below, list the six basic functions of protein in the body. Then design a billboard to advertise one of the functions. Choose a function and write a summary of the message of your design. Use the box at the bottom of the page to illustrate your billboard. Be sure to use an attention-getting slogan, logo, and layout.

Functions of Protein

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Summary of Message

Protein Balance

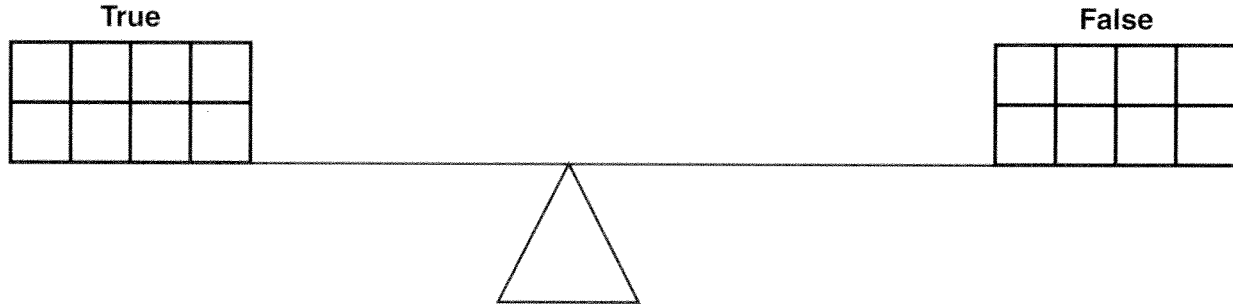
Activity E

Chapter 7

Name _____

Date _____ Period _____

Decide which of the following statements about protein needs are true and which are false. Write the numbers of statements that are true inside the blocks on the left end of the scale. Write the numbers of those that are false on the right end. If you have identified the statements correctly, you will have the same number on each end, thus preserving the "protein balance."



1. The human body can store excess amino acids as a protein source.
2. The most important factor in determining how much protein a person needs is his or her activity level.
3. Most people in the United States eat more protein than they need.
4. Children need proportionally more protein than adults.
5. Extra protein is needed to support the growth of unborn babies in pregnant women and the production of milk in breast-feeding mothers.
6. In general, females require more protein than men of the same age and size.
7. A large, tall person needs more protein than a small, short person.
8. Sick people require extra protein to build antibodies.
9. The RDAs for protein include a margin of safety.
10. For people between the ages of 4 and 18, the DRI for protein is 20 percent of calories.
11. The Nutrition Facts panel on food products can help people estimate how much protein they consume each day.
12. People who exercise occasionally need extra protein to build muscle and supply energy.
13. Athletes should consume more calories from protein than from carbohydrates.
14. The grains and vegetable groups of the MyPlate system are the primary food sources of protein.
15. One-fourth cup of cooked legumes counts as a one ounce-equivalent of protein.
16. People can avoid health risks by choosing protein sources that are high in saturated fats.

Not Too Little—Not Too Much

Activity F

Name _____

Chapter 7

Date _____ Period _____

Use the clues provided to identify conditions brought on by too little or too much protein in the diet. Write one letter in each space; do not leave blank spaces between words. Note the first four answers are in the "plus zone," reflecting too much protein intake. The last four answers are in the "minus zone," reflecting too little protein intake.

"Plus Zone"

1. _____

2. _____

3. _____ a n d _____

4. _____

Protein•Protein•Protein•Protein•Protein•Protein•Protein•Protein•Protein•Protein

5. _____

6. _____

7. _____

8. _____

"Minus Zone"

1. Since many high-protein foods are also high-fat foods, the result of a high-protein diet may be excess _____.
2. When a person consumes a diet high in protein from animal sources, he or she may develop _____ in the bones.
3. A high-protein diet creates extra work for the _____ and _____, the organs responsible for handling nitrogen waste.
4. A person who takes in more protein than he or she excretes is in _____.
5. A lack of calories and proteins in the diet causes a condition called _____ - _____.
6. A person who loses more nitrogen than he or she consumes is in _____.
7. When mothers in poor countries wean older children to begin breast-feeding newborns, the older children may develop _____.
8. The muscles and tissues of people suffering from starvation begin to waste away due to a PEM disease called _____.