

## Science 9-Biology Worksheet 6-3--Proteins



10

Name \_\_\_\_\_

Due Date \_\_\_\_\_

Show Me       Hand In

*Correct and Hand In Again By* \_\_\_\_\_

*Read pages 107-109 of SP to help you answer the following questions:*

1. What are three ways in which **proteins** help our cells?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
  
2. Name **seven** types of foods that supply protein \_\_\_\_\_  
 \_\_\_\_\_
  
3. **Protein molecules** are made up of smaller molecules called \_\_\_\_\_

*Go to a computer that is connected to the internet and enter the following site:  
<http://www.people.virginia.edu/~rjh9u/aminacid.html> Use the information to help you with questions 4-6*

4. The diagram shows the actual structure of the molecules of **amino acids**. What are the **four** most common elements found in amino acids? (use symbols) \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.
5. The names for most **amino acids** end in the three letters \_\_\_\_\_.
6. How many amino acids are shown on the diagram on this web page? \_\_\_\_\_

*Now go back to your textbook on page 107.*

7. When many amino acid molecules join together they form larger molecules called \_\_\_\_\_

8. When you eat food containing **protein** your digestive system breaks down the protein molecules into their building blocks, called \_\_\_\_\_.
9. \_\_\_\_\_ carries the amino acids to places in the body where they are needed.
10. To make all the proteins your body needs, you require \_\_\_\_\_ different **amino acids**.
11. Why are some amino acids called “**non-essential**” amino acids, even when your body still needs them? \_\_\_\_\_  
\_\_\_\_\_
12. What is meant by an **essential amino acid**? \_\_\_\_\_  
\_\_\_\_\_
- How many **essential amino acids** are there? \_\_\_\_\_
13. Proteins that contain **all of the essential amino acids** are called \_\_\_\_\_ proteins.
14. Proteins which are **missing one or more of the essential amino acids** are called \_\_\_\_\_ proteins.
15. **Complete proteins** are found in **animal** products like \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.
16. Is it possible to obtain **complete proteins** by eating only vegetable products? \_\_\_\_\_  
How is this achieved? \_\_\_\_\_  
\_\_\_\_\_

17. Look at the diagrams on page 108. Is it possible to get **complete proteins** by eating the following:

<b>Eating:</b>	<b>Complete Protein? (yes or no)</b>
<i>Only corn</i>	
<i>Only wheat</i>	
<i>Only wheat and corn</i>	
<i>Only rice</i>	
<i>Only rice and corn</i>	
<i>Only soybean</i>	
<i>Only soybeans and rice</i>	
<i>Only soybeans and corn</i>	
<i>Only soybeans and wheat</i>	

18. What are **four tissues** in your body that are made up mainly of proteins? \_\_\_\_\_  
 \_\_\_\_\_
19. What are **enzymes**? \_\_\_\_\_  
 \_\_\_\_\_
20. When the body runs out of **carbohydrates** and **fat** as sources of energy, what does it start using? \_\_\_\_\_. What could happen as a result of this?  
 \_\_\_\_\_.
21. If you eat **too much** food with proteins, the excess carbon, hydrogen and oxygen atoms will produce more \_\_\_\_\_ in your body.
22. What are the **only** places that **amino acids** are held in your body? \_\_\_\_\_  
 \_\_\_\_\_
23. It is best to use \_\_\_\_\_ and \_\_\_\_\_ for energy needs and have \_\_\_\_\_ available to help **build** and **repair** your body?