

SACE Stage 2 Nutrition Basics Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

Copyright © 2025 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain from reliable sources accurate, complete, and timely information about this product.

SAMPLE

Questions

SAMPLE

- 1. Which of the following is an example of a macronutrient?**
 - A. Vitamins**
 - B. Fiber**
 - C. Proteins**
 - D. Minerals**

- 2. Where does the majority of carbohydrate breakdown occur in the digestive system?**
 - A. Stomach**
 - B. Mouth**
 - C. Small intestine**
 - D. Large intestine**

- 3. Which of the following are considered the three main types of lipids?**
 - A. Triglycerides, sterols, and proteins**
 - B. Triglycerides, phospholipids, and sterols**
 - C. Fats, oils, and carbohydrates**
 - D. Phospholipids, glycoproteins, and triglycerides**

- 4. Which nutrient is essential for the production of hemoglobin?**
 - A. Calcium**
 - B. Iron**
 - C. Vitamin C**
 - D. Vitamin D**

- 5. What role does the enzyme lactase serve in digestion?**
 - A. Digestion of proteins**
 - B. Breakdown of starches**
 - C. Digestion of lactose**
 - D. Absorption of fats**

- 6. What is the energy value of proteins?**
- A. 20.0 kJ/g**
 - B. 25.0 kJ/g**
 - C. 16.7 kJ/g**
 - D. 18.5 kJ/g**
- 7. What are the components of maltose?**
- A. Glucose and fructose**
 - B. Glucose and glucose**
 - C. Galactose and glucose**
 - D. Fructose and galactose**
- 8. What does the abbreviation BGL stand for in nutritional contexts?**
- A. Blood glucose level**
 - B. Beta-glucan levels**
 - C. Bacterial growth levels**
 - D. Biological growth levels**
- 9. Which of the following represents the equation for cellular respiration?**
- A. glucose + carbon dioxide = oxygen + water**
 - B. glucose + oxygen = carbon dioxide + water**
 - C. glucose + water = oxygen + carbon dioxide**
 - D. carbon dioxide + energy = glucose + water**
- 10. What is the role of antioxidants in the diet?**
- A. To provide essential fibers**
 - B. To protect the body from oxidative stress and damage from free radicals**
 - C. To help the body absorb proteins**
 - D. To serve as a primary energy source**

Answers

SAMPLE

1. C
2. C
3. B
4. B
5. C
6. C
7. B
8. A
9. B
10. B

SAMPLE

Explanations

SAMPLE

1. Which of the following is an example of a macronutrient?

- A. Vitamins**
- B. Fiber**
- C. Proteins**
- D. Minerals**

Proteins are classified as macronutrients because they are one of the three main nutrients that provide the body with energy and are essential for various biological functions. Macronutrients are required in large amounts in the diet, and they include carbohydrates, fats, and proteins. Proteins play a crucial role in building and repairing tissues, producing enzymes and hormones, and supporting immune function. Vitamins and minerals, on the other hand, are considered micronutrients because they are needed in smaller quantities. While they are vital for different physiological processes, they do not provide energy in the same way that macronutrients do. Fiber, though important for digestive health, is classified as a type of carbohydrate and does not provide calories, making it distinct from proteins as a macronutrient.

2. Where does the majority of carbohydrate breakdown occur in the digestive system?

- A. Stomach**
- B. Mouth**
- C. Small intestine**
- D. Large intestine**

The majority of carbohydrate breakdown occurs in the small intestine due to the action of pancreatic enzymes and intestinal enzymes. Once carbohydrates are ingested, they begin to be broken down in the mouth by salivary amylase, but this initial digestion is limited. The stomach primarily focuses on the digestion of proteins and does not play a significant role in carbohydrate breakdown. In the small intestine, the pancreas secretes pancreatic amylase, which continues the process of breaking down starches into simpler sugars such as maltose. Additionally, the lining of the small intestine produces enzymes, like maltase and sucrase, which further break down disaccharides into monosaccharides. This efficient process allows for the absorption of glucose, fructose, and galactose directly into the bloodstream. The large intestine has minimal involvement in carbohydrate digestion, as most carbohydrates should already be digested and absorbed before reaching this part of the digestive system. Thus, the small intestine is the key site for the majority of carbohydrate breakdown, making it the correct answer.

3. Which of the following are considered the three main types of lipids?

- A. Triglycerides, sterols, and proteins**
- B. Triglycerides, phospholipids, and sterols**
- C. Fats, oils, and carbohydrates**
- D. Phospholipids, glycoproteins, and triglycerides**

The identification of triglycerides, phospholipids, and sterols as the three main types of lipids is rooted in their distinct structures and functions within biological systems. Triglycerides are the most common type of fat found in the body, serving primarily as energy storage molecules. They consist of three fatty acid chains linked to a glycerol backbone, and they play a crucial role in metabolism, heat insulation, and nutrient absorption. Phospholipids, on the other hand, are fundamental components of cell membranes. Their unique structure, featuring hydrophilic (water-attracting) and hydrophobic (water-repelling) properties, allows them to form bilayers, which are essential for cellular integrity and fluidity. Sterols, such as cholesterol, play various roles in the body, including serving as precursors for hormones and contributing to membrane structure. They are characterized by their complex ring structures and are vital for maintaining membrane fluidity and stability. The other options include components that do not accurately represent the primary categories of lipids. For instance, proteins are not classified as lipids, and carbohydrates serve a different primary function in energy provision and biomolecular structure. Therefore, the correct identification of triglycerides, phospholipids,

4. Which nutrient is essential for the production of hemoglobin?

- A. Calcium**
- B. Iron**
- C. Vitamin C**
- D. Vitamin D**

The correct answer is iron, as this nutrient plays a critical role in the formation of hemoglobin, which is the protein in red blood cells responsible for transporting oxygen throughout the body. Hemoglobin consists of heme groups that contain iron, and without adequate iron, the body cannot produce sufficient amounts of hemoglobin. This can lead to conditions such as anemia, characterized by a decreased ability of the blood to carry oxygen. In contrast, while calcium is vital for bone health and various bodily functions, it does not have a direct role in hemoglobin production. Vitamin C is important for enhancing the absorption of iron from plant sources and helps maintain healthy bodily functions, but it is not a component of hemoglobin itself. Vitamin D primarily supports bone health and assists in calcium metabolism, which is unrelated to hemoglobin synthesis. Understanding the specific roles of these nutrients clarifies why iron is essential for hemoglobin production.

5. What role does the enzyme lactase serve in digestion?

- A. Digestion of proteins
- B. Breakdown of starches
- C. Digestion of lactose**
- D. Absorption of fats

Lactase is an enzyme that specifically facilitates the digestion of lactose, which is a sugar found in milk and dairy products. This enzyme catalyzes the hydrolysis of lactose into its constituent monosaccharides, glucose and galactose, which can then be absorbed into the bloodstream and utilized by the body for energy. Without sufficient lactase, individuals may experience lactose intolerance, leading to gastrointestinal discomfort when consuming dairy due to undigested lactose in the intestines. Understanding the specific role of lactase helps highlight its importance in the digestive process, particularly for those who consume dairy. This enzyme does not play a role in protein digestion, starch breakdown, or fat absorption, as it is solely dedicated to handling lactose.

6. What is the energy value of proteins?

- A. 20.0 kJ/g
- B. 25.0 kJ/g
- C. 16.7 kJ/g**
- D. 18.5 kJ/g

The energy value of proteins is approximately 16.7 kJ/g. This figure is widely accepted in nutrition science and signifies that for every gram of protein consumed, the body can derive about 16.7 kilojoules of energy. Proteins play a crucial role in numerous physiological functions, including tissue repair, enzyme production, and immune function. Understanding the energy value of proteins helps individuals plan their diets more effectively, ensuring they get adequate macronutrients for their energy needs. The other values presented do not accurately reflect the accepted caloric content of proteins, which is firmly established at 16.7 kJ/g.

7. What are the components of maltose?

- A. Glucose and fructose
- B. Glucose and glucose**
- C. Galactose and glucose
- D. Fructose and galactose

Maltose is a disaccharide sugar that is composed of two glucose molecules linked together. This compound is formed during the digestion of starch when amylase enzymes break down starch into smaller sugar units. The specific bond that holds the two glucose molecules together is known as an alpha-1,4 glycosidic bond. Maltose is commonly found in malted foods and beverages and serves as a source of energy. Its structure and composition directly influence how it is metabolized in the body, as it can be broken down into individual glucose units for use in energy production. The other combinations of sugars listed do not form maltose, reinforcing that glucose is the sole sugar in both units of this disaccharide.

8. What does the abbreviation BGL stand for in nutritional contexts?

- A. Blood glucose level**
- B. Beta-glucan levels**
- C. Bacterial growth levels**
- D. Biological growth levels**

In nutritional contexts, the abbreviation BGL stands for Blood Glucose Level. This term is significant because blood glucose levels are a critical measure used in managing and assessing overall health, particularly in relation to diabetes and metabolic health. Monitoring blood glucose levels helps in understanding how well the body is able to utilize glucose, which is a primary energy source for cells. Understanding blood glucose levels can inform dietary choices, as certain foods can cause rapid increases in blood sugar while others contribute to more stable levels. Regular monitoring can guide individuals in maintaining a healthy lifestyle, particularly for those with insulin sensitivity or diabetes. The other options, while relevant to nutrition and health, do not accurately represent the abbreviation BGL in common usage.

9. Which of the following represents the equation for cellular respiration?

- A. glucose + carbon dioxide = oxygen + water**
- B. glucose + oxygen = carbon dioxide + water**
- C. glucose + water = oxygen + carbon dioxide**
- D. carbon dioxide + energy = glucose + water**

The correct equation for cellular respiration is represented by the combination of glucose and oxygen to produce carbon dioxide and water. In cellular respiration, glucose serves as the primary energy source, and oxygen is essential for the process as it helps in the complete breakdown of glucose. The end products, carbon dioxide and water, are byproducts of the energy-generating metabolic pathways. The process occurs in several stages, primarily involving glycolysis, the citric acid cycle, and the electron transport chain, where energy is released from glucose. This energy is stored in the form of ATP (adenosine triphosphate) which cells use for various functions. The other options do not accurately depict the process of cellular respiration. For instance, the first option incorrectly indicates that carbon dioxide is a reactant and that oxygen is produced, which reverses the actual flow of the process. The last two options misrepresent the reactants and products, suggesting pathways that are not representative of cellular respiration, like the formation of glucose from carbon dioxide and energy. Thus, the accurate representation of cellular respiration is correctly identified as the one that describes the utilization of glucose and oxygen leading to the release of carbon dioxide and water.

10. What is the role of antioxidants in the diet?

- A. To provide essential fibers
- B. To protect the body from oxidative stress and damage from free radicals**
- C. To help the body absorb proteins
- D. To serve as a primary energy source

Antioxidants play a vital role in the diet by protecting the body from oxidative stress and damage caused by free radicals. Free radicals are unstable molecules that can damage cells, proteins, and DNA, leading to various health issues, including chronic diseases and aging. Antioxidants neutralize these free radicals, thereby reducing their harmful effects on the body. This protective action is crucial for maintaining overall health and may contribute to the prevention of oxidative stress-related conditions such as heart disease, cancer, and neurodegenerative disorders. In addition to their protective roles, antioxidants can be found in various foods, particularly fruits, vegetables, nuts, and whole grains, where they contribute to the overall health benefits associated with a balanced diet. While fiber, protein absorption, and energy sources are important dietary components, they do not encompass the specific protective role that antioxidants fulfill in combating oxidative stress.