

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## **Nail the Nutrients: Investigating 4th Grade Fuel**

Moving past basic food groups to evaluate complex nutrient interactions and analyze food labels for optimal physiological performance.

---

**1. Imagine you are an athlete preparing for a long-distance race tomorrow. Why might a sports nutritionist suggest a dinner rich in complex carbohydrates like barley or wild rice rather than simple sugars?**

- A. Simple sugars provide longer-lasting energy for the entire race.
- B. Complex carbohydrates break down slowly, providing a sustained energy release.
- C. Barley contains high amounts of Vitamin D which helps muscles breathe.
- D. Simple sugars turn into protein once you start running.

**2. Iron is a trace mineral that helps red blood cells transport oxygen throughout your body.**

- A. True
- B. False

**3. Amaya is checking a food label. She sees 'Partially Hydrogenated Oil' in the ingredients. This indicates the presence of \_\_\_ fats, which are generally linked to heart health risks.**

- A. Unsaturated
- B. Polyunsaturated
- C. Trans
- D. Omega-3

**4. Which of these scenarios best demonstrates the concept of 'nutrient density'?**

- A. Eating a large bag of pretzels that has 400 calories and very little fiber.
- B. A cup of kale that provides high levels of Vitamin K and A with very few calories.
- C. Drinking a diet soda because it has zero calories but no vitamins.
- D. Eating a slice of white bread because it is fortified with sugar.

**5. While fats are often viewed negatively, they are actually necessary for absorbing certain vitamins (A, D, E, and K) and protecting organs.**

- A. True
- B. False

**6. If a person is a strict vegetarian, they must carefully combine plant-based foods like beans and sunflower seeds to ensure they get all 'Essential \_\_\_', which are the building blocks of protein.**

- A. Fatty Acids
- B. Amino Acids
- C. Nucleic Acids
- D. Enzymes

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**7. Consider the role of fiber in the digestive system. How does insoluble fiber, found in wheat bran or the skins of fruit, assist the body?**

- A. It dissolves in water to turn into energy for the brain.
- B. It speeds up the absorption of sugar into the bloodstream.
- C. It adds bulk to stool and helps food pass more quickly through the stomach and intestines.
- D. It replaces the need for drinking water during meals.

**8. A student notices they are feeling very sluggish and having trouble concentrating in the afternoon. After analyzing their lunch of plain white pasta and apple juice, a scientist might suggest adding \_\_\_ to help stabilize their blood sugar levels.**

- A. More honey
- B. Lean protein
- C. More fruit juice
- D. Refined flour

**9. Sodium is completely bad for the body and should be eliminated from the human diet entirely to prevent high blood pressure.**

- A. True
- B. False

**10. A food label lists 'Total Sugars: 24g' and 'Added Sugars: 20g'. What does this tell you about the nutritional value of the food?**

- A. Most of the sugar in the product occurs naturally in the ingredients.
- B. The food is a great source of natural energy like a piece of fruit.
- C. The majority of the sugar was added during processing rather than coming from whole food sources.
- D. The food contains high amounts of fiber which cancels out the sugar.