

Name: _____ **Date:** _____

The Nutrition Alchemist's Biofuel Challenge for 4th Grade

Synthesize data from nutrition labels and design balanced meals to fuel high-intensity physical and mental performance.

1. If an athlete is preparing for a long-distance track meet, which 'slow-burning' complex carbohydrate would provide the most sustained energy release compared to simple sugars?

- A. A glass of apple juice
- B. A bowl of steel-cut oatmeal
- C. A honey-coated rice cracker
- D. A piece of milk chocolate

2. To repair microscopic tears in muscle fibers after a strenuous climbing session, the body specifically requires _____, which are found in high concentrations in lentils and eggs.

- A. Saturated fats
- B. Simple starches
- C. Amino acids
- D. Citric acid

3. True or False: 'Nutrient density' refers to a food that has a high amount of vitamins and minerals relative to its total calorie count.

- A. True
- B. False

4. A nutritionist notices a student is feeling unusually sluggish and has brittle fingernails. Which mineral, found in leafy greens and pumpkin seeds, might they be lacking to help transport oxygen through their blood?

- A. Sodium
- B. Iron
- C. Potassium
- D. Fluoride

5. When analyzing a nutrition label, if a product contains 0g of fiber but 25g of 'Added Sugars,' it is likely a _____ food that provides quick energy but few long-term health benefits.

- A. Whole grain
- B. Probiotic
- C. Highly processed
- D. Unsaturated

6. True or False: Fat is a harmful substance that should be entirely removed from a 4th grader's diet to ensure maximum heart health.

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- A. True
- B. False

7. Which of these meal combinations demonstrates the best 'synergy' for bone health by combining Vitamin D and Calcium?

- A. A banana and a glass of water
- B. White toast with grape jelly
- C. Fortified milk and a spinach omelet
- D. Beef jerky and an apple

8. The ____ system relies heavily on 'good' bacteria supported by fiber-rich foods like raspberries and beans to keep the body's waste-removal process efficient.

- A. Respiratory
- B. Digestive
- C. Skeletal
- D. Circulatory

9. True or False: Water is considered an essential nutrient because it regulates body temperature and acts as a solvent for chemical reactions in cells.

- A. True
- B. False

10. If you are designing a 'brain-boosting' snack for a math competition, which option provides the best omega-3 fatty acids for cognitive function?

- A. A handful of walnuts
- B. A bag of potato chips
- C. A gummy fruit snack
- D. A slice of white bread