



Fuel for Performance: Answer Key



1. What is the most important role of fluids during activity?
Fluids regulate body temperature. The evaporation of sweat/perspiration from the skin helps cool the individual's body. Adequate fluid intake helps replace the evaporated sweat/perspiration.
2. What is a major cause of fatigue and poor performance?
Dehydration, associated with not consuming enough fluids, can lead to poor performance, cramps, heat exhaustion, and possible heatstroke.
3. List the four food groups.

Grain Products	Vegetables and Fruit
Milk Products	Meat and Alternatives
4. a. What is referred to as the "Fuel of Champions"? Explain why.
Carbohydrates (CHOs) are referred to as the "Fuel of Champions." They supply the main source of muscle energy for long, steady, intense activity. Depleted storage of muscle energy leads to reduced endurance, fatigue, and exhaustion. Eating CHO-rich foods is the only way to maintain and refill muscle-energy stores.
 - b. In what form is the fuel used during exercise?
Blood glucose and muscle glycogen are the fuels used during exercise.
5. During the week before an athletic competition, what would an individual's diet look like?
As the individual's training decreases in volume and intensity leading up to a competition, the emphasis on food intake would be a high CHO diet to maximize muscle-energy storage in the form of glycogen.
6. What should an individual do to maximize the glycogen that muscle stores? Explain.
An athlete/individual should eat nutrient-rich CHOs such as bread, potatoes, rice, fruit, cereal, legumes, and starchy vegetables. This can be achieved by eating at least eight servings of Grain Products and Vegetables and Fruit daily.
7. What pre-event meal should an individual eat or consume two to three hours before competition?
 - **Eat a meal that consists mainly of CHO foods and is low in protein and fat.**
 - **Drink fluids while having the meal.**
 - **Examples of pre-event meals are:**
 - **cereal, milk, fruit, toast**
 - **milk, sandwich with lean meat**
 - **fruit, yogurt, muffin**
 - **small portion of pasta with tomato sauce**

(continued)

K.5.S2.C.2



Fuel for Performance: Answer Key (continued)



8. List what an individual should eat after an intense workout/exercise. Explain why.
Recent research states that eating a 200- to 400-gram serving of CHO-rich food (e.g., tuna sandwich, chocolate milk, fruit-sweetened yogurt) immediately after exercise, and then small meals spaced evenly throughout the rest of the day, helps to refill the stores of muscle energy.
9. What is the role of protein during exercise?
During exercise, protein plays only a minor role as an energy source. Protein's function is mainly to build, repair, and maintain tissue.
10. a. Individuals should eat food that contains iron. Explain why.
Iron is the component in red blood cells responsible for getting oxygen to working muscles. Eating food that contains iron is important to an individual because an iron deficiency could lead to anemia. Anemia can cause fatigue and poor recovery from hard workouts.
- b. List foods that contain iron and help performance.
Foods containing iron include meat, eggs, legumes, dark green vegetables, dried fruit, and enriched grains.
- c. Describe factors that help or hinder iron absorption.
The iron in meat—from heme (animal) source—is more readily absorbed than iron from other sources. Consuming meat or a vitamin C-containing food (e.g., oranges, strawberries, tomatoes) with a non-meat source of iron (e.g., legumes, grains) enhances iron absorption, whereas consuming coffee or tea with a non-meat iron-containing food decreases iron absorption.
11. Taking iron supplements is not recommended without a physician's advice. Explain why.
Iron supplements can be toxic. Physicians can monitor changes in iron status through comprehensive blood tests.
12. Why is it so important to have rest days built into your exercise program?
Rest days are important because they allow muscle-energy stores to refill and allow muscles to adapt to exercise changes and repair themselves.
13. How does an individual prepare for "optimal performance"? Explain.
An individual can prepare for "optimal performance" by following *Canada's Food Guide to Healthy Eating* (Health Canada), with an emphasis on eating CHO-rich foods, training properly, and getting enough rest.