

Beverages

Matteo loved watching the Olympics and has recently become interested in soccer. He knows that to try out for his school's team in the spring he needs to begin increasing his physical activity. Matteo has worked up to running 30 minutes each day. In his health class he learned the importance of drinking fluids after running and that:

- Beverages with carbohydrates (less than 8%) may be beneficial for physical activities lasting longer than 45 minutes.
- Beverages with electrolytes such as sodium and potassium may be beneficial for physical activities lasting longer than 1 hour.

Which drink best meets Matteo's need for fluids, carbohydrates and electrolytes?

Option 1: Sports Drink



Nutrition Facts

Serving Size 8 fl oz (240 ml)

Servings Per Container 3

Amount Per Serving

Calories 50

% Daily Value

Total Fat 0 g
0 %

Sodium 110 mg
5 %

Potassium 30 mg
1 %

Total Carbohydrate 14 g
6 %

Sugars 14 g

Protein 0 g

Option 2: Carbonated Soda



Nutrition Facts

Serving Size 8 fl oz (240 ml)

Servings Per Container
2.5

Amount Per Serving

Calories 100

% Daily Value

Total Fat 0 g
0 %

Sodium 35 mg
1 %

Total Carbohydrate 27 g
11 %

Sugars 27 g

Protein 0 g

Option 3: Water



Nutrition Facts Serving Size 8 fl oz (240 ml) Servings Per Container 2
Amount Per Serving
Calories 0
% Daily Value
Total Fat 0 g 0 %
Sodium 0 mg 0 %
Total Carbohydrate 0 g 0 %
Sugars 0 g
Protein 0 g

Option 4: Orange Juice



Amount Per Serving	
Calories	110
% Daily Value	
Total Fat	0 g 0 %
Sodium	15 mg 1 %
Potassium	450 mg 13 %
Total Carbohydrate	27 g 11 %
	Sugars 24 g
Protein	2 g Not a significant source of protein

- Beverage 3 “Water” is ranked 1st
 - Beverage 1 “Sports Drink” is ranked 2nd
 - Beverage 4 “Orange Juice” is ranked 3rd
 - Beverage 2 “Carbonated Soft Drink” is ranked 4th
- Cuts = 2 – 4 – 2
- **Beverage 3 “Water” is ranked 1st**
 - For noncompetitive, everyday physical activities, plain, cool water is recommended because it is rapidly absorbed and it cools the body from the inside out.
 - **Beverage 1 “Sports Drink” is ranked 2nd**
 - For physical activities lasting longer than 45 minutes beverages containing small amounts of carbohydrate may help maintain blood glucose as well as providing water. However, beverages containing more than 8% carbohydrate can cause abdominal cramps, nausea and diarrhea. The sports drink in this situation provided 14 g carbohydrate in 240 ml which is approximately 6% carbohydrate.
 - Sports drinks provide electrolytes such as sodium and potassium to help replace those lost during physical activity along with water. Usually eating a regular meal is all that is needed to replace lost electrolytes. However, for physical activities lasting more than one hour sports drinks may be needed to replace fluids and electrolytes. The sports drink in this situation provided both sodium and potassium.

- Although beverages containing carbohydrate and electrolytes may be beneficial for longer physical activities, the length of physical activity in this situation was 30 minutes.
- **Beverage 4 “Orange Juice” is ranked 3rd**
 - Although orange juice provides water and the electrolytes sodium and potassium, as mentioned above, beverages containing more than 8% carbohydrate can cause abdominal cramps, nausea and diarrhea. The orange juice in this situation provided 27 g carbohydrate in 240 ml which is approximately 11% carbohydrate. This is too high a carbohydrate concentration for physical activity. Orange juice diluted in half with water would provide a more appropriate carbohydrate concentration.
- **Beverage 2 “Carbonated Soft Drink” is ranked 4th**
 - Similarly, the carbonated soft drink in this situation provided 27 g carbohydrate in 240 ml, or approximately 11% carbohydrate which is too high a carbohydrate concentration for physical activity.
 - Many carbonated soft drink contain caffeine. Caffeine is a stimulant and may cause stomach upset, nervousness, irritability, headaches, and diarrhea.
 - Carbonated soft drinks may limit fluid intake because the bubbles can make a person feel full quickly.