

Class X - Health and Physical Education

Dietary Considerations and Food Quality

CBSE NOTES

Dietary Considerations and Food Quality - Mastery Worksheet

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Mastery Questions

1. Explain the importance of dietary planning and how it varies with age, gender, and physical activity. Provide examples.

Hint: Consider the nutritional needs at different life stages and how physical activity influences energy requirements.

Solution: Dietary planning is crucial for meeting the nutritional needs of individuals, which vary based on age, gender, and physical activity. For example, adolescents require more nutrients due to rapid growth, while elders need easily digestible foods. Men generally need more calories than women due to higher muscle mass. Physical activity level also dictates energy requirements; for instance, a sedentary person needs fewer calories than an athlete. Examples include spinach paratha for adolescents and idli for elders.

2. Compare and contrast the dietary needs of a sedentary woman and a pregnant woman. Justify your answer with nutritional requirements.

Hint: Focus on the increased caloric and nutrient needs during pregnancy.

Solution: A sedentary woman requires about 1900 kcal/day, focusing on maintaining weight and health. In contrast, a pregnant woman needs about 2200 kcal/day to support fetal growth and her own health. The pregnant woman also requires more iron to prevent anemia and more protein for fetal development. Examples include iron-rich foods like leafy greens for the pregnant woman and balanced meals for the sedentary woman.

3. Describe the role of carbohydrates, proteins, and fats in the diet of a sportsperson. How does timing of intake affect performance?

Hint: Highlight the importance of timing and the specific roles of each macronutrient.

Solution: Carbohydrates are the primary energy source, with 5-10 g/kg body weight needed for intense sports. Proteins (1.2-2.0 g/kg body weight) repair muscles, while fats provide slow energy for endurance. Timing is critical; carbs 2-4 hours before exercise ensure energy, and proteins post-exercise aid recovery. Examples include bananas pre-workout and whey protein post-workout.

4. What are the common methods of food preservation? Explain how each method works to prevent spoilage.

Hint: Think about how each method addresses the causes of food spoilage.

Solution: Common methods include heat treatment (kills microbes, e.g., pasteurization), refrigeration (slows microbial growth), drying (removes moisture), preservatives (inhibit microbes, e.g., sugar in jams), and radiation (kills pathogens). Each method targets different spoilage causes, like microbes or enzymes, to extend shelf life.

5. Discuss the impact of food adulteration on health with examples. How can consumers detect common adulterants?

Hint: Focus on both health impacts and practical detection methods.

Solution: Food adulteration, like adding starch to milk or metanil yellow to dal, can cause health issues from diarrhea to cancer. Detection methods include using iodine for starch (turns blue) or HCl for metanil yellow (turns pink). Consumers should check for FSSAI marks and avoid suspiciously cheap products.

6. Explain the significance of FSSAI, AGMARK, and ISI in ensuring food quality. How do these marks help consumers?

Hint: Consider how these marks build consumer trust and ensure safety.

Solution: FSSAI, AGMARK, and ISI are quality certifications ensuring food safety and standards. They indicate that the product meets regulatory requirements, helping consumers avoid adulterated or substandard foods. For example, FSSAI ensures no harmful additives, while AGMARK certifies agricultural product quality.

7. What are the adverse effects of pesticides on health? Suggest measures to minimize exposure.

Hint: Highlight both immediate and long-term health effects and practical prevention steps.

Solution: Pesticides can cause acute poisoning (vomiting, dizziness) or chronic issues (cancer, nervous damage). Minimize exposure by washing produce, using organic foods, and storing pesticides safely. For example, rinsing vegetables under running water removes surface residues.

8. Classify foods based on shelf life and suggest preservation methods for semi-perishable foods like potatoes.

Hint: Focus on the characteristics of each category and specific methods for potatoes.

Solution: Foods are perishable (milk, 1-2 days), semi-perishable (potatoes, 5-7 days), and non-perishable (grains, months). For potatoes, methods include refrigeration (slows sprouting), drying (reduces moisture), and radiation (extends shelf life).

9. How do sensory appeal and satiety value influence food choices? Provide examples.

Hint: Think about how sensory qualities and fullness influence eating habits.

Solution: Sensory appeal (taste, aroma) attracts consumers, like crisp papad or hot soup. Satiety value (feeling full) affects meal frequency; high-fiber foods like whole grains keep one full longer. Examples include choosing aromatic biryani for appeal and oatmeal for satiety.

10. Discuss the role of media in shaping food preferences. How can advertisements promote healthy eating?

Hint: Consider both negative and positive impacts of media on dietary habits.

Solution: Media influences preferences through ads, often promoting processed foods. However, ads can also encourage healthy choices by highlighting nutritious foods' benefits, like fruits for vitamins. For example, campaigns showcasing local, seasonal foods can shift preferences toward healthier options.

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