

CBSE CLASS 6 — SCIENCE

Chapter 3: Mindful Eating — A Path to a Healthy Body

Practice Worksheet – Case Study Based Questions

Name:

Section:

Date:

Case Study Based Questions

Case Study 1: Medu does not eat vegetables but enjoys biscuits, noodles and white bread. He often complains of stomach ache and constipation.

a) Which food component is Medu most likely lacking in his diet?

b) Suggest two changes Medu should make to his diet.

c) Why does eating fibre-rich food help in preventing constipation?

Case Study 2: During a long sea voyage in 1746, sailors suffered from bleeding and swollen gums. Physician James Lind observed that sailors who ate lemons and oranges recovered from these symptoms.

a) Name the disease the sailors were suffering from.

b) Deficiency of which nutrient caused this disease?

c) Name two other food sources rich in this nutrient.

Case Study 3: Reshma had trouble seeing things in dim light. The doctor tested her eyesight, prescribed a vitamin supplement, and also advised her to include certain foods in her diet.

a) Which deficiency disease is Reshma suffering from?

b) Which vitamin is most likely lacking in her diet?

c) Suggest any three food items she should include in her diet to overcome this problem.

Case Study 4: Gourav got a fracture in his leg. His doctor aligned the bones and put on a plaster, and gave him calcium tablets. On his second visit, the doctor also gave him Vitamin D syrup along with the calcium tablets.

a) Why did the doctor give calcium tablets to Gourav?

b) Why was Vitamin D syrup given along with the calcium tablets on the second visit?

c) Name two natural sources of Vitamin D.

Case Study 5: In the 1960s, people living in the Himalayan region and Northern plains of India showed swelling at the front of the neck. This was found to be due to a lack of iodine in the local soil, food and water.

a) Name the disease caused by this deficiency.

b) What step did the Government of India take to address this problem?

c) Name one other natural source of iodine besides iodised salt.

Case Study 6: A doctor advises a marathon runner to drink glucose water immediately after finishing a race.

a) Glucose is an example of which food component?

b) Why does glucose provide instant energy to the runner?

c) Name two other foods that are rich in this food component.

Case Study 7: A student compares fresh fruit, fresh fruit juice, and canned fruit juice for a school project on healthy eating habits.

a) Which of these three would you recommend as the healthiest choice? Give a reason.

b) Which nutrient may be reduced in canned fruit juice as compared to fresh fruit?

c) Why might the dietary fibre content differ among the three options?

Case Study 8: A nutritionist tests three food items — a boiled potato, a piece of butter, and boiled gram — using iodine solution, the 'oily patch' test, and the protein test.

a) Which test would you use to check for starch in the boiled potato?

b) Which of the three food items is most likely to show a positive fat test?

c) Which of the three food items is most likely to show a positive protein test?

Case Study 9: A family living in a coastal area regularly eats seaweed and fish, while a family living in the mountains, far from the sea, rarely does.

a) Which mineral might the mountain family be at greater risk of lacking?

b) Name the deficiency disease that can be caused by the lack of this mineral.

c) Suggest one way the mountain family could overcome this deficiency.

Case Study 10: The school nutritionist plans a 'no food wastage' campaign after noticing many students leaving food uneaten on their plates.

a) Why is it important to avoid wasting food?

b) Give two suggestions students can follow to reduce food wastage.

c) Briefly explain the effort involved in getting food 'from farm to plate'.

Case Study 11: Raj argues with his friend Sanjay that eating only fruits and avoiding cereals completely is the healthiest way to eat.

a) Do you agree with Raj's statement? Give a reason for your answer.

b) Name the nutrient that would mostly be missing if cereals are avoided completely.

c) Suggest a balanced meal that includes fruits along with other food groups.

Case Study 12: A family compares the nutritional information printed on a packet of potato wafers with that on a packet of roasted chana.

a) Which of the two would be the healthier choice? Give a reason.

b) What is meant by the term 'junk food'?

c) Name two more examples of junk food.

Case Study 13: Mishti's grandmother finds it difficult to pass stools regularly and complains of stomach discomfort.

a) Which food component should be increased in her diet?

b) Name three food items that would help improve her condition.

c) Why is drinking enough water also important in this situation?

Case Study 14: A group of students wants to reduce the 'food miles' of the vegetables used in their school canteen.

a) What do you understand by the term 'food miles'?

b) Suggest one way the canteen can reduce its food miles.

c) Name two benefits of reducing food miles.

Case Study 15: While using iodine solution in the laboratory, a few drops accidentally fell on a cotton saree and a few drops fell on a nylon sock. The drops on the saree turned blue-black, while the colour on the sock did not change.

a) What can you conclude about the material of the saree?

b) What can you conclude about the material of the sock?

c) What does a blue-black colour with iodine solution generally indicate?

ANSWER KEY

Chapter 3: Mindful Eating

Case Study Based Questions

Case Study 1:

- a) Medu is most likely lacking dietary fibre (roughage) in his diet.
- b) He should eat more vegetables, fruits and wholegrains, and reduce refined/processed foods like white bread, biscuits and noodles.
- c) Fibre-rich food adds bulk to the undigested food and helps in its smooth movement through the intestines, ensuring easy passage of stools.

Case Study 2:

- a) The sailors were suffering from scurvy.
- b) The disease was caused by a deficiency of Vitamin C.
- c) Other sources of Vitamin C include amla, guava, green chilli and lemon (any two).

Case Study 3:

- a) Reshma is suffering from night blindness (loss of vision in dim light).
- b) Vitamin A is lacking in her diet.
- c) She should include papaya, carrot, mango and milk (any three) in her diet.

Case Study 4:

- a) Calcium tablets were given to help strengthen Gourav's bones and support the healing of the fracture, since calcium keeps bones healthy.
- b) Vitamin D was given along with calcium because Vitamin D helps the body absorb calcium; without it, the calcium would not be used effectively by the bones.
- c) Two natural sources of Vitamin D are exposure to sunlight and fish (also milk, butter or eggs).

Case Study 5:

- a) The disease caused was goitre.
- b) The Government of India made it mandatory to supplement common salt with iodine to prepare iodised salt.
- c) Other sources of iodine include seaweed and water chestnut (singhada).

Case Study 6:

- a) Glucose is an example of a carbohydrate.
- b) Glucose is a simple sugar that is quickly absorbed into the bloodstream, so it provides instant energy to the body.
- c) Other carbohydrate-rich foods include wheat, rice, maize, potato and banana (any two).

Case Study 7:

- a) Fresh fruit would be the healthiest choice, as it retains the maximum fibre and nutrients without any processing or added sugar.
- b) Vitamin C (and other nutrients sensitive to heat/processing) may be reduced in canned fruit juice compared to fresh fruit.
- c) Fresh fruit has the highest fibre content because its natural pulp/fibre remains intact, while juicing and canning remove or break down much of the fibre.

Case Study 8:

- a) The iodine test (adding drops of diluted iodine solution and checking for a blue-black colour) would be used to check for starch in the potato.
- b) Butter is most likely to show a positive fat test (an oily patch on paper).
- c) Boiled gram is most likely to show a positive protein test (turning violet with copper sulfate and caustic soda solution).

Case Study 9:

- a) The mountain family might be at greater risk of lacking iodine, since seafood is a rich source of iodine.
- b) Iodine deficiency can cause goitre.
- c) They could overcome this deficiency by using iodised salt in their food.

Case Study 10:

- a) Wasting food ignores the time, effort and resources put in by farmers and other workers in growing and transporting the food, and it also increases the burden on the environment.
- b) Students can take only as much food as they can eat and can ask for smaller portions if they are not very hungry (any two reasonable suggestions).
- c) Food travels through many stages before reaching our plate: growing the crop, harvesting, threshing and winnowing, storage, grinding and packing, and transport to retail shops and finally to us — each stage takes considerable time, labour and resources.

Case Study 11:

- a) No, Raj's statement is not correct, because a healthy diet needs a balance of all food groups, not just fruits.
- b) Carbohydrates (energy-giving nutrients from cereals) would mostly be missing if cereals are avoided completely.
- c) A balanced meal could include fruit along with cereals (like rice or roti), pulses (dal), vegetables and a source of protein like milk or paneer.

Case Study 12:

- a) Roasted chana would be the healthier choice, as it has more protein and fibre and less fat compared to potato wafers.
- b) Junk food refers to food that is high in sugar and fat but low in proteins, vitamins, minerals and dietary fibre.
- c) Two more examples of junk food are candy bars and carbonated (soft) drinks.

Case Study 13:

- a) Roughage (dietary fibre) should be increased in her diet.
- b) Fruits, vegetables, wholegrains and pulses would help improve her condition.
- c) Drinking enough water is important because it helps in the smooth movement of food through the intestines and softens the stool, working along with fibre to relieve constipation.

Case Study 14:

- a) Food miles refer to the total distance a food item travels from where it is produced (the farm) to the consumer.
- b) The canteen can reduce food miles by sourcing vegetables from local farmers instead of far-away suppliers.
- c) Reducing food miles helps cut down cost and pollution during transport, supports local farmers, and keeps food fresher and healthier.

Case Study 15:

- a) The saree is most likely made of cotton, since cotton contains starch (from natural plant fibres) which reacts with iodine to turn blue-black.
- b) The sock is most likely made of a synthetic material like nylon, which does not contain starch and therefore does not change colour with iodine.
- c) A blue-black colour with iodine solution generally indicates the presence of starch.

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