

SBOA SCHOOL AND JUNIOR COLLEGE CHENNAI - 101
CLASS VI –SCIENCE
HIGHER ORDER THINKING QUESTIONS

1. Paheli and Boojho peeled some potatoes and cut them into small pieces. They washed and boiled them in water. They threw away the excess water and fried them in oil adding salt and spices. Although the potato dish tasted very good, its nutrient value was less. Suggest a method of cooking potatoes that will not lower the nutrients in them.
2. Name two ingredients in our food that are not obtained from plants or animals. Mention one source for each ingredient.
3. List two of your favourite food items and mention their ingredients.
4. Tasty food is not always nutritious and nutritious food may not always be tasty to eat. Comment with examples.
5. While using iodine in the laboratory, some drops of iodine fell on Paheli's socks and some fell on her teacher's saree. The drops of iodine on the saree turned blue black while their colour did not change on the socks. What can be the possible reason?
6. Why do boiled seeds fail to sprout?
7. Paheli avoids eating vegetables but likes to eat biscuits, noodles and white bread. She frequently complains of stomachache and constipation. What are the food items that she should include in her diet to get rid of the problem? Give reason for your answer.
8. 'Minerals and vitamins are needed in very small quantities by our body as compared to other components, yet, they are an important part of a balanced diet.' Explain the statement.
9. 'Water does not provide nutrients, yet it is an important component of food.' Explain?
10. Boojho was having difficulty in seeing things in dim light. The doctor tested his eyesight and prescribed a particular vitamin supplement. He also advised him to include a few food items in his diet.
 - (a) Which deficiency disease is he suffering from?
 - (b) Which food component may be lacking in his diet?
 - (c) Suggest some food items that he should include in his diet. (any four)
11. Once, Paheli visited a tailor shop and brought home some cuttings of fabric to study their properties. She took two pieces and found that one of the pieces were shrinking when it was burnt with a candle. However the other did not shrink on burning. Can you help her to find out which of the two was a cotton fabric and which a silk fabric?
12. Boojho with perfect eyesight was finding it difficult to pass a thread through the eye of a needle. What can be the possible reason for this?
13. In ancient times stitching was not known. People used to simply drape the fabrics around different parts of their body. Even today a number of unstitched fabrics are used by both men and women. Can you give four such examples of clothes?

14. A cotton shirt, before it reaches you, completes a long journey. Elaborate this journey starting from cotton bolls.
15. Describe the two main processes of making fabric from yarn.
16. It was Paheli's birthday. Her grandmother gave her two gifts made of metals, one old dull silver spoon and a pair of lustrous gold earrings. She was surprised to see the difference in the appearance of the two metals. Can you explain the reason for this difference?
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18. On a bright sunny day, Shikha was playing hide and seek with her brother. She hid herself behind a glass door. Do you think her brother will be able to locate her. If yes, why? If no, why not?
19. Take a small cotton ball and place it in a tumbler/bowl filled with water. Observe it for at least 10 minutes. Will it float or sink in water and why?
20. Chalk, iron nail, wood, aluminium, candle, cotton usually look different from each other. Give some properties by which we can prove that these materials are different.
21. Sugar, salt, mustard oil, sand, sawdust, honey, chalk powder, petals of flower, soil, copper sulphate crystals, glucose, wheat flour are some substances given to Paheli. She wants to know whether these substances are soluble in water or not. Help her in identifying soluble and insoluble substances in water.
22. Sheela, Saima and Ravi have to dissolve maximum amount of sugar in the same amount of milk so as to win in a game. Ravi took hot boiling milk while Saima took ice cold milk. Sheela managed to get milk at room temperature. Whom do you think would win the game and why?
23. Both Sarika and Mohan were asked to make salt solution. Sarika was given a teaspoonful of salt and half a glass of water, whereas Mohan was given twenty teaspoons full of salt and half a glass of water.
- How would they make salt solutions?
 - Who would be able to prepare saturated solution?
24. Paheli was feeling thirsty but there was only a pot of water at home which was muddy and unfit for drinking. How do you think Paheli would have made this water fit for drinking if the following materials were available to her. Alum, tub, muslin cloth, gas stove, thread, pan and lid.
25. You are provided with a mixture of salt, sand, oil and water. Write the steps involved for the separation of salt, sand and oil from the mixture by giving an activity along with the diagram.
26. A mixture of iron nails, salt, oil and water is provided to you. Give stepwise methods to separate each component from this mixture?
27. A piece of iron is heated till it becomes red-hot. It then becomes soft and is beaten to a desired shape. What kind of changes are observed in this process—reversible or irreversible?

28. Paheli had bought a new bottle of pickle from the market. She tried to open the metal cap to taste it but could not do so. She then took a bowl of hot water and immersed the upper end of the bottle in it for five minutes. She could easily open the bottle now. Can you give the reason for this?

29. Can we reverse the following changes? If yes, suggest the name of the method.

- (a) Water into water vapour
- (b) Water vapour into water
- (c) Ice into water.
- (d) Curd into milk.

30. Boojho's sister broke a white dove, a symbol of peace, made of Plaster of Paris (POP). Boojho tried to reconstruct the toy by making a powder of the broken pieces and then making a paste by mixing water. Will he be successful in his effort? Justify your answer.

31. Tearing of paper is said to be a change that cannot be reversed. What about paper recycling?

32. Give one example in each case

- (a) Change which occurs on heating but can be reversed.
- (b) Change which occurs on heating but cannot be reversed.
- (c) Change which occurs on cooling but can be reversed.
- (d) Change which occurs on mixing two substances, but can be reversed.
- (e) Change which occurs on mixing two substances, but cannot be reversed.

33. A potter working on his wheel shaped a lump of clay into a pot. He then baked the pot in an oven. Do these two acts lead to the same kind of changes or different? Give your opinion and justify your answer.

34. Conversion of ice into water and water into ice is an example of change which can be reversed. Give four more examples where you can say that the changes can be reversed.

35. Change of a bud into a flower is a change which cannot be reversed. Give four more such example.

36. Paheli mixed flour and water and (i) made a dough, (ii) rolled the dough to make a chapati, (iii) baked the chapati on a pan, (iv) dried the chapati and ground it in a grinder to make powder. Identify the changes (i) to (iv) as the changes that can be reversed or that cannot be reversed.

37. It was Paheli's birthday, her brother Simba was helping her to decorate the house for the birthday party and their parents were also busy making other arrangements. Following were the activities going on at Paheli's home:

- (i) Simba blew balloons and put them on the wall.
- (ii) Some of the balloons got burst.
- (iii) Paheli cut colourful strips of paper and put them on the wall with the help of tape.
- (iv) She also made some flowers by origami (paper folding) to decorate the house.
- (v) Her father made dough balls.
- (vi) Mother rolled the dough balls to make *puries*.
- (vii) Mother heated oil in a pan.
- (viii) Father fried the *puries* in hot oil.

Identify the activities at Paheli's home as those that can be reversed and those which cannot be reversed.

38. Solve the riddles given below:

(a) "I have a green tender stem and I am much shorter than you. Who am I?"

(b) I come out first from the seed when it is soaked in water. I provide anchorage to plants. Who am I? Write another function that I perform.

39. Will a leaf taken from a potted plant kept in a dark room for a few days turn blue black when tested for starch? Give reasons for your answer.

40. Can the stem of a plant be compared with a street with two-way traffic? Give reason.

41. Boojho wanted to test the presence of starch in leaves. He performed the following steps.

(1) He took a leaf and boiled it in water,

(2) He placed the leaf in a petri dish and poured some iodine over it.

He did not get the expected result. Which step did he miss? Explain.

42. Write the type of joint which is used for each of the following movements:

(a) A cricket bowler bowls the ball.

(b) A girl moves her head in right and left direction.

(c) A person lifts weights to build up his biceps.

43. Given below is a list of different types of movements in animals.

Running, Jumping, Walking, Crawling, Swimming, Creeping, Slithering

Write the types of movements seen in each animal.

(a) Duck

(b) Horse

(c) Kangaroo

(d) Snail

(e) Snake

(f) Fish

(g) Human beings

(h) Cockroach

44. Boojho fell off a tree and hurt his ankle. On examination the doctor confirmed that the ankle was fractured. How was it detected?

45. Bones are hard structures and cannot be bent. But, we can still bend our elbow, knee, etc. How is this possible?