

Materials Designed by
BRAC
Institute
of Languages (BIL)

Food Adulteration

Class: IX-X

Dear friends, everyday we eat a variety of foods. But how often do we think about the food that we are eating? In today's page, we will learn about food adulteration.

A. What is Food Adulteration?



Have you ever thought that the glass of milk or the piece of fish you are having could be **adulterated**? Food adulteration has become a very common practice in our country and we are **consuming** these foods without knowing the numerous **hazards** they cause to our health. Food adulteration is the process of adding chemical substances with foods to increase the quantity, reduce manufacturing costs and increase profit. Nowadays, almost all food items contain adulterants.

Regular intake of adulterated food causes many **acute** and life-long diseases, ranging from diarrhoea to various forms of cancer, kidney disorders, birth defects, etc. Most importantly, we should remember that **intentional** adulteration of food is a punishable **offence**.

Guess the meaning of the words in bold by substituting them with synonyms from the box below.

dangers eating serious purposeful crime contaminated

How to do: In pairs, use the words in bold to make questions about food adulteration and ask those to your friends to find out how much they know.

B. Harmful Effects

Knowing about commonly adulterated foods and their effects helps us to build awareness. Below is a chart showing some common food items, the adulterants used and the effects they have on our health.



Food Items (Adulterated)	Adulterants	Harmful Effects
Tea	artificially coloured saw dust, used tea leaves, iron fillings	liver disorder, cancer
Fruits	arsenic, wax	dizziness, paralysis, death
Milk	unhygienic water, refined oil, starch, urea	stomach disorders
Fish	formalin	food poisoning, asthma, headaches

Now, imagine that you have discovered three food items in your area which have been adulterated. Use the information from the chart to write a letter to the editor of a newspaper in the space given below.

October 15, 2012

To

Subject:

Dear Sir/ Madam,

Sincerely,

How to do: Find out other such adulterated foods, their adulterants and the effects. Then, with the help of the chart and the information you find, make banners and hang those in your neighbourhood.

C. Diseases

Here are some of the diseases that may be caused by the adulterant chemicals. Fill in the blanks with the clues from the boxes to check your understanding.

adulterant	hallucinations	preservation	artificial	bulkiness
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Formalin, which is used for the (a) _____ of noodles, meat, fish, fruits, etc., can cause violent coughing, headaches, asthma or bronchitis. Mogdad seeds and roasted chicory roots used as an (b) _____ in foods are highly toxic and can cause blood pressure. (c) _____ colours added to soft and hard drinks, and in sweets can cause cancer. Also, rye added in bread and wheat flour can cause both physical and mental harm, including convulsions, miscarriage and (d) _____. Colours used in chilli powder are responsible for tumours in the liver and bladder, and finally cancer. Lastly, use of urea in rice and vegetables can cause rashes in the skin, (e) _____ of the body, and kidney and liver damage.

How to do: Interview people in your neighbourhood to find out if they have suffered from any of the above sicknesses and share your findings with the class.

Learning Objectives:

synonyms, letter writing, critical thinking, comprehension

Answer Key: (Use a mirror to see the answers)

জটিলতা (d) ক্ষতিগ্রস্ততা (e) .
অপরিচালিত (a) অতিরিক্ত (b) রঙিনতা (c)

All the instructions given here are for students to use materials as self-access. Teachers can use them as a guide.

D. Testing for Food Adulteration



Here are some simple and fun tests you can easily conduct at home to see whether your food has been adulterated or not. Match the information in Column I with the correct information in Column II to perform the tests.

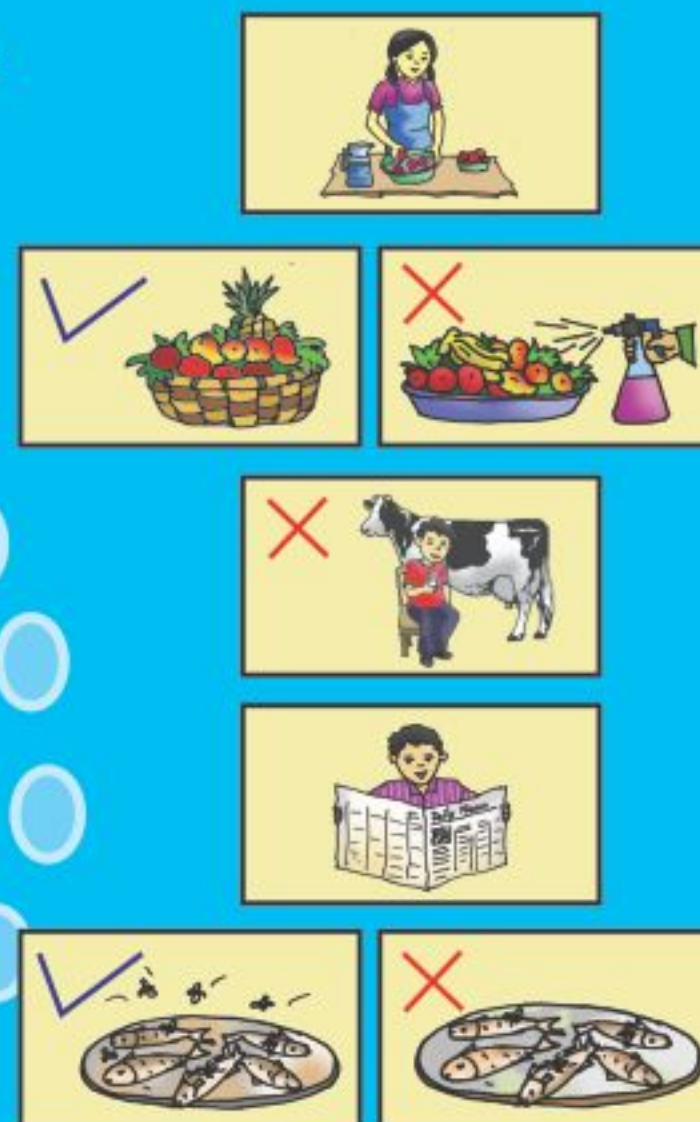
COLUMN I		COLUMN II
Food Item	Adulterant	Test
Ice-cream	washing powder (used for lightness of colour and flavour)	Rub tea leaves on white paper, artificial colour comes out on paper. Move a magnet through the sample, iron will stick to the magnet.
Milk	water	Squeeze a few drops of lemon juice on the ice-cream. If it starts to bubble, it shows the presence of washing powder.
Tea	artificial colour, used tea leaves, iron fillings	Put a drop of milk on a polished vertical surface. The drop of pure milk either stops or flows slowly leaving a white trail behind it. Whereas milk adulterated with water will flow immediately without leaving a mark.

How to do: Write down the test results and share those with your classmates.

E. Protection Against Food Adulteration

Here are some useful tips you can follow in order to deal with food adulteration. Choose the appropriate words to find out the tips.

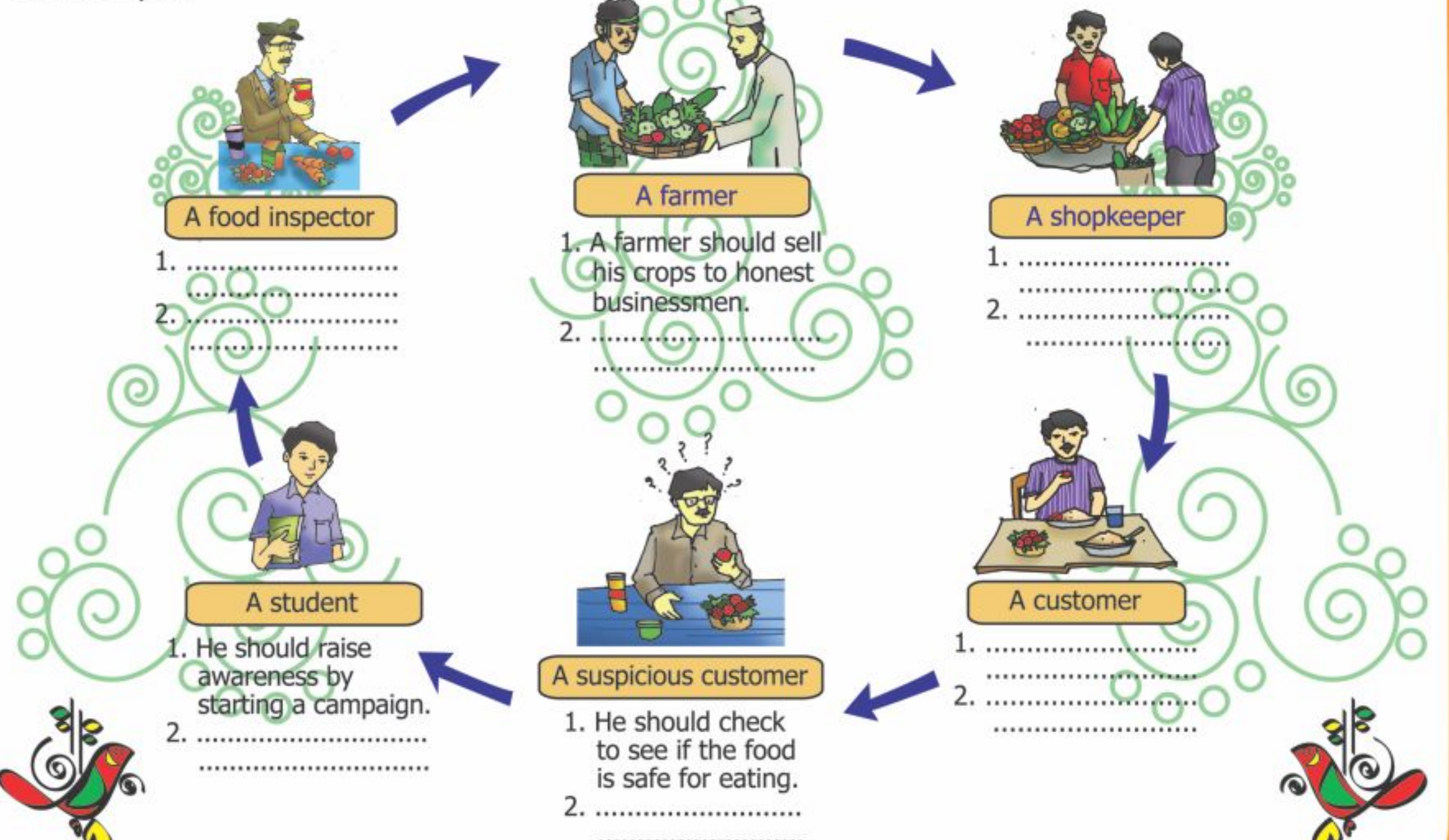
- In order to remove pesticides, insecticides and other chemical coatings, we could/must always wash fruits and vegetables in salt water or warm water.
- We should/may try to choose the safer option by buying organic rather than inorganic foods.
- Unpasteurized milk, cheese, raw vegetables and half-cooked eggs would/must not be eaten.
- In order to find out about warnings regarding adulterated foods, we have to/might read newspapers regularly.
- If no insects like flies, ants and bees are attracted to the fruits or fish, we can/should avoid buying these foods as they probably contain harmful chemicals.



How to do: Same as B.

F. Food Adulteration Chain

The first step of bringing about awareness is through realisation of one's responsibilities. Look at the food adulteration chain below and write down the responsibilities of each person in the chain. Some have been done for you.



How to do: Do a role-play in groups using the people mentioned in the diagram.

WE SHOULD BE KIND TO ANIMALS

Animals are always helpful to us and they are very important for ecological balance too.

We should always treat animals with kindness.

Be kind to animals.



আপনার সচেতনতাই আপনার শক্তি, জ্বলে উঠুন আপন শক্তিতে