

Unit 04/

Introduction

If food items are kept for a long period of time and not stored properly, they get spoil such food items are bad for health. When food items kept for a long time gets spoil as germs start growing on it. Once the food is spoiled, it cannot be eaten and has to be thrown away. Spoilage is a process in which food items deteriorate to the point in which it is not edible to human.

Causes of Spoilage

The food and water may be infected by germs. Flies carry germs. When they sit on our food, they pass on these germs to our food. There are various factors which are responsible for food spoilage such as bacteria, mould, yeast, moisture, light, temperature, and chemical reaction.

1. Bacteria: They are the most abundant microorganisms found on the earth. They are tiny in size and vary in shape. Some bacteria are useful also. They help to convert milk into curd.

2. Protozoa: They are single-celled microorganisms that cause disease like food poisoning etc.

3. Fungi: They are found in damp and warm places and grow on the dead and rotting matter.

4. Temperature: Temperature is one of the major factors which is responsible for food spoilage.

Signs of food spoilage

Signs of food spoilage include an appearance different from the fresh food, such as a change in color, a change in texture, an unpleasant odor or taste.

Activity I

- Aim: To study the growth of fungus.
- Materials: Piece of bread
- Method: Take a piece of bread. Make it moist and keep it in a warm corner of the room for 3-4 days. Observe it after 3-4 days.
- Observation: Presence of greenish patch growing on the bread.

Food Preservation

Food is valuable. Preserving food can help to avoid wasting of food. Food preservation involves preventing the food from being spoilt. Preservation of food is the process by which food is stored by special methods. Cooked or uncooked food can be preserved in different ways to be used later. Some methods of preservation are:

1. Freezing

Food kept in a refrigerator remains fresh for some days. Germs do not grow easily in cool places. We preserve food items, like milk fruit, vegetables and cooked food by keeping them in a refrigerator.

Activity II

- Aim: To understand the principle of food preservation.
- Materials: Two apples, fridge
- Method: Take two apples. Keep one apple in the fridge and one outside for 2-3 days. Record your observation.
- Observation: The apple inside the fridge is fresh while the one outside will start decaying.

2. Boiling

By this method, we can preserve food for a short period of time. Germs in milk are killed by pasteurization. It is done by boiling milk for sometimes and then cooling it quickly.

3. Salting

We can add salt to preserve pickles and fish.

4. Sweetening

Excess sugar in food also acts as a preservative. We store food for a long time in the form of jams, jellies, by adding sugar.

5. Dehydration

In this method, the food items are dried in sun to stop the growth of bacteria in them. Certain foods, like raw mangoes, fishes, potato chips are preserved by this method.

6. Canning

In this method, air is removed from food and put in airtight cans so that germs do not grow on them. Food items like vegetables, seafood, dairy products etc. Are preserved through this method.

Advantages and Disadvantages

- **Advantages of food preservation:** Germs do not grow easily in preserved food and make it safe to eat. Preservation enables us to enjoy seasonal fruits like strawberries and mangoes even during the offseason.
- **Disadvantages of food preservation:** Excess salt and sugar are used in the preservation of food which is not good for health. Some methods of food preservation may lead to loss of nutrients.

Questions

Q1. What is food spoilage?

Ans: Food spoilage means the colour, flavour, taste, texture and nutritional value of a food is unsuitable and not edible to human.

Q2. What are the various methods of preserving food?

Ans: The various methods of food preservation are:

- Refrigeration: a low temperature of the fridge does not allow germs to grow, thus food is preserved. ex, vegetables, eggs and fruits.
- Drying: Water is removed by heating or evaporation. Ex grain and pulses.
- Pickling: Addition of salt and spices. Ex mango, lemon, vegetables.
- Deep freezing: Keeping food, vegetables, meat and fish in the freezer for a long period.
- Canning: Addition of sugar to make jam, jelly and sauces etc.
- Airtight pouches: Keeping prepared food items in nitrogen or gas-filled poly pack pouches. Example – chips, French fries, noodles etc.

Q3. Write down disadvantages of preservation.

Answer: Excess salt and sugar is used in the preservation of food which is not good for health. Some methods of food preservation may lead to loss of nutrients.

Unit 05/

Jams and Jellies

Jams and jellies are made from a variety of fruits, either singly or in combination. Most of the fruits are harvested in the fall. The level of ripeness varies. Pears, peaches, apricots, strawberries, and raspberries gel best if picked slightly underripe. Plums and cherries are best if picked when just ripe.

Sugar or high fructose corn syrup, or a combination of the two are added to the fruit to sweeten it. Cane sugar chips are the ideal type of sugar used for preserving fruit. Granulated and beet sugar tend to crystallize.

The element that allows fruit to gel, pectin is present in varying degrees in all fruit. Apples, blackberries, cherries, citrus fruits, grapes, quinces, and cranberries have the best natural gelling properties. Strawberries and apricots are low in pectin. Jams made from such fruits are either blended with fruits high in pectin, or extra sugar is added to the mixture. Sometimes pectin is extracted industrially from dried apples.

Citric acid is added to obtain the correct balance needed to produce the jam or jelly. Lime and lemon juice are high in citric acid, therefore they are the most prevalent source used. Other flavorings, such as vanilla, cinnamon, mint can be added to the jam or jelly.

The Manufacturing Process

The ingredients must be added in carefully measured amounts. Ideally, they should be combined in the following manner: 1% pectin, 65% sugar, and an acid concentration of pH 3.1. Too much pectin will make the spread too hard, too much sugar will make it too sticky.

Inspection

- 1 When the fruit arrives at the plant, it is inspected for quality, using color, ripeness, and taste as guides. Fruit that passes inspection is loaded into a funnel-shaped hopper that carries the fruit into pipes for cleaning and crushing.

Cleaning, crushing, and chopping

- 2 As the fruit travels through the pipes, a gentle water spray clears away surface dirt. Depending on whether the finished product is to be jam or jelly, paddles push the fruit and or just its juice through small holes, leaving stems and any other excess debris behind. Some fruits, such as citrus and apples may be manually peeled, cored, sliced and diced. Cherries may be soaked and then pitted before being crushed.

Pasteurizing the fruit

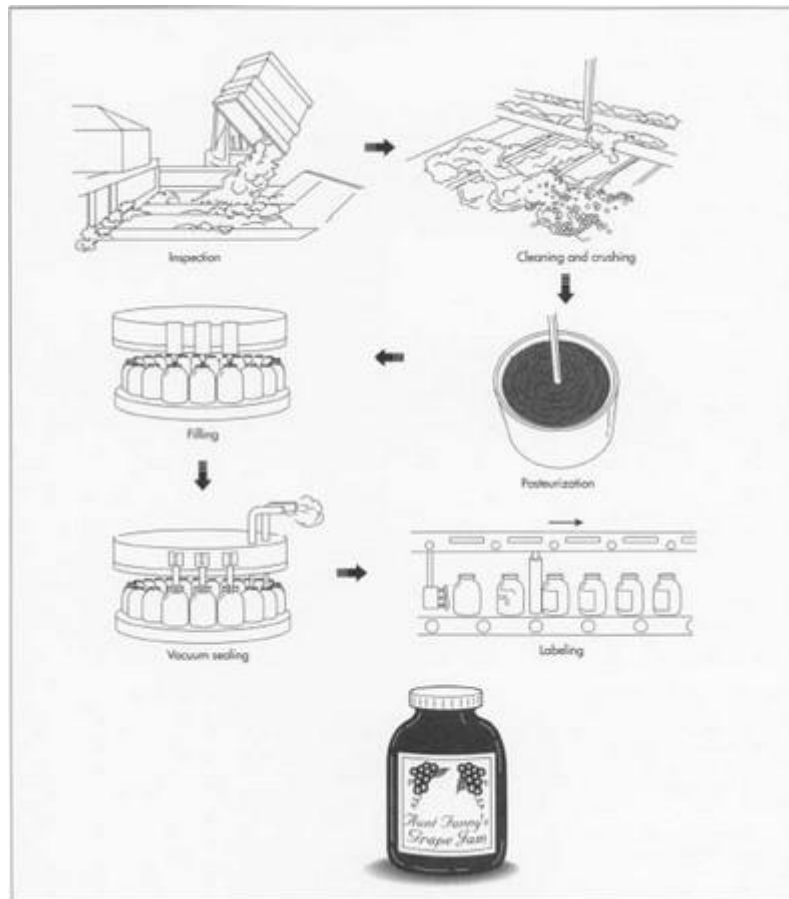
- 3 The fruit is heated to just below the boiling point (212° F [100° C]) and then immediately chilled to just below freezing (32° F [0° C]). This process, pasteurization, prevents spoilage. For jelly, the pulp is forced through another set of small openings that holds back seeds and skin. It will often then be passed through a dejuicer or filter. The juice or fruit is transferred to large refrigerated tanks and then pumped to cooking kettles as needed.

Cooking the jam and jelly

- 5 Premeasured amounts of fruit and/or juice, sugar, and pectin are blended in industrial cooking kettles. The mixtures are usually cooked and cooled three times. If additional flavorings are to be included, they are added at this point. When the mixture reaches the predetermined thickness and sweetness, it is pumped to filling machines.

Filling the jars

- 6 Presterilized jars move along a conveyer belt as spouts positioned above pour premeasured amounts of jam or jelly into them.



When the fruit arrives at the plant, it is inspected for quality, using color, ripeness, and taste as guides. Fruit that passes inspection is cleaned, crushed, and pasteurized. Next, the premeasured mixture is cooked with added sugar and pectin until it reaches the appropriate thickness and taste. Then it is vacuum-packed in jars and labeled.

Metal caps are then vacuumed sealed on top. The process of filling the jars and vacuum packing them forces all of the air out of the jars further insuring the sterility of the product.

Labeling and packaging

7 The sealed jars are conveyed to a machine that affix preprinted labels. According to law, these labels must list truthful and specific information about the contents

Quality Control

In the United States, food processing regulations require that jams and jellies are made with 45 parts fruit or juice to 55 parts sugar. The federal Food and Drug Administration (FDA) mandates that all heat-processed canned foods must be free of live microorganisms. Therefore, processing plants keep detailed lists of cooking times and temperatures, which are checked periodically by the FDA.

Requirements also exist for the cleanliness of the workplace and workers. Producers install numerous quality control checks at all points in the preparation process, testing for taste, color and consistency.

Questions

Question 1: Answer the following questions

Why sugar is added to fruit?

.....

.....

What are the types of sugar used during jam preparation? Why?

.....

.....

What is pectin used for?

.....

.....

How about citric acid?

.....

.....

Briefly, summarize the procedure of jam preparation

.....

.....

.....

Question 2: Give opposites of

Bellow

Full

Above

Sweet

Thick

Question3: Extract from the text five nouns then give their correspondent verbs, then extract five verbs and give their nouns

Unit 6/

Malnutrition

A child is considered to be undernourished if it does not receive adequate nutrition (sufficient quantity and quality of food), which may result in the child being constantly hungry. It receives inappropriate food or beverages and is malnourished. The child may be seen as being undersized, having low weight and a sallow complexion, lacking body tone and being lethargic. May be it lacks adequate shelter and lives in housing that is unsafe and unsanitary.

Malnutrition may result in recurrent colds, pneumonia, tuberculosis, sunburn and other persistent skin disorders or rashes. Lack of hygiene may be yet another contributory factor for these health disorders.

Task : Answer the following questions:

1. What do you understand by the term malnutrition?
2. Describe a malnourished child.
3. Are malnourished children immune to diseases?
4. What are the other contributory factors for malnutrition?

scoops : number of helpings by spoon

skimmed milk : milk with the cream removed

disorder : disease

malnourished : under fed

beverage : drink

sallow : sickly

lethargic : tired/lazy

recurrent : repeated/regular

symptoms : signs

expiry date : end date

Activity:**ATTENTION BURGER BUFFS!**

Task: *Fill in the gaps with the appropriate word:*

More, obesity, a balanced, fast food, safe, carbohydrates, food poisoning, food, developing, growth, starvation, calories, burgers, pizzas, dieticians.

Most children enjoy eating..... Scientific tests have shown us thatandcan lack essential minerals and vitamins which are essential for health and..... Added to this they contain large amounts of fat andwhich can result inand heart problems. Many children end up suffering from malnutrition since they eat too much of the wrong sort of..... In fact, in many areas of the developed world, a lot of children show similar symptoms to those in poorer..... countries. Here scarcity of food causes thousands of deaths from....., especially in the wake of natural disasters which ruin crops and in some cases totally destroy the annual harvest.

.....tell us that we must eatdiet as it essential we consume sufficient quantities of different food groups. They tell us that we should all eatfibre and fewer foods which are high in cholesterol which can block the walls of arteries and lead to heart problems. This is good advice, of course, but our lifestyles often make this difficult. Many of the ready-prepared foods we buy from supermarkets are high ingiving us more energy than we actually need. Genetically modified foods are appearing on our supermarket shelves, even though nobody is really sure if such foods are..... We have the option, of course, of buying organic foods, but naturally activated fruit and vegetables are expensive. And to make matters worse, we are continually hearing about outbreaks of salmonella, and listeria which put us off eating certain foods, as nobody wants to spend time in hospital, suffering from..... A few things to watch out for next time you go shopping. If you have the time and the money, that is!

Glossary:

fast food : food that requires little preparation before being served

burger : a bread roll served with minced beef/ cheese/ vegetable

pizza : baked dough covered with cheese, tomatoes, etc.

obesity : being excessively fat

arteries : vessels that convey oxygenated blood from the heart to other parts of the body

calories : energy value of food

salmonella : kind of bacterium causing food poisoning

listeria : rod-like bacterium causing a serious form of food poisoning genetically : alteration of cells of animal proteins or plants modified foods

Answer:

Most children enjoy eating fast food. Scientific tests have shown us that burgers and pizzas can lack essential minerals and vitamins which are essential for health and growth. Added to this they contain large amounts of fat and carbohydrates which can result in obesity and heart problems. Many children end up suffering from malnutrition since they eat too much of the wrong sort of food. In fact, in many areas of the developed world, a lot of children show similar symptoms to those in poorer developing countries. Here scarcity of food causes thousands of deaths from starvation, especially in the wake of natural disasters which ruin crops and in some cases totally destroy the annual harvest.

Dieticians tell us that we must eat a balanced diet as it is essential we consume sufficient quantities of different food groups. They tell us that we should all eat more fibre and fewer foods which are high in cholesterol which can block the walls of arteries and lead to heart problems. This is good advice, of course, but our lifestyles often make this difficult. Many of the ready-prepared foods we buy from supermarkets are high in calories giving us more energy than we actually need. Genetically modified foods are appearing on our supermarket shelves, even though nobody is really sure if such foods are safe. We have the option, of course, of buying organic foods, but naturally activated fruit and vegetables are expensive. And to make matters worse, we are continually hearing about outbreaks of salmonella, and listeria which put us off eating certain foods, as nobody wants to spend time in hospital, suffering from food poisoning. A few things to watch out for next time you go shopping. If you have the time and the money, that is!

Unit 7/

General information

The following two expressions do not mean the same

1. 'How are you?' and 2. 'How do you do?'

1. While speaking to a familiar person, we ask, 'How are you?' and the response will be 'I am fine'.

2. When a person is introduced to a stranger he/she will say 'How do you do?' The response is also 'How do you do?'

Other-ways of strangers greeting each other is to say 'glad' /'pleased' /'nice to meet you'.

- When someone is in distress, we say, 'How sad!'

When someone is sick, we say, 'Wish you/him speedy recovery'.

- Between Friends. saying 'How are you?' itself becomes a form of greeting.

At the Library

Praveen : Good afternoon, Madam, (***greeting***)

Librarian : Good afternoon, Praveen. What can I do for you? (***offering to help***)

Praveen : I need to get some information on animal cells.

Librarian : What is it for, Praveen?

Praveen : I have to make a presentation of animal cells in the seminar next week.

Librarian : That's fine. (***appreciating a proposal***)

Praveen : Could you tell me where I can get it, Madam? (***making a polite request***)

Librarian : Look at that last cupboard. It's marked REFERENCE.

Praveen : Do you mean the one next to the LITERATURE cupboard?

Librarian : Exactly! There are a number of encyclopaedias in that cupboard. You will find there 'Encyclopaedia'. That's the right book for your reference.

Praveen : Oh, I see. May I borrow it for a day or two? (***asking for permission***)

Librarian : Sorry, the reference books are not for lending.

Praveen : There is no place around. May I sit here and take notes?

Librarian : Yes, you may. (***granting permission***)

Praveen : Thank you, Madam. (***thanking***)

Librarian : Welcome. (***responding to thanks***)

Task 1: The descriptive words given below are the opposites of the underlined words in the following sentences. Fill in the blank in each sentence with an appropriate opposite.

a) My dad claims that he was thin in his youth and that it is only now that he has become

.....

- b) He is really good-looking but when he is argry he is rather.....
- c) The twins are not look-alikes. White one is a dark-skinned brunette, the other is a.....
- d) The ill-clad old beggar sits at the gate raising his bowl to all the passers-by.
- e) David was a punyboy but he fought against the Goliath.....

well-dressed, unattractive, blonde, hefty, stout, fair-skinned

Task2: Here are a few common diseases and infections you may have experienced or observed with their respective symptoms. Match the disease/ Infection with the symptoms:

A	B
Pneumonia	One-sided headache, nausea, sensitive to sound and light
Chickenpox	High fever, nausea and rigors
Influenza(flu)	Itching and soreness in the eyes, and watery often with discharge of pus
Mumps	Burning pain in abdomen, pain or nausea after eating
Gastritis	Swollen painful joints, stiffness, restricted rnovement
Conjunctivitis	Swollen glands in front of ear,ear ache, pain on eating
Migraine	Rash starting on body, slightly raised temperature
Malaria	Dry cough, high fever, chest pain, rapid breathing
Rheumatism	Headache, aching muscles, fever, cough, sneezing

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