



CHAPTER: MANGOES ROUND THE YEAR

Grade: 5

Board: **CBSE**

Book: **NCERT**



1.

Chapter Summary and Placement

Read through the following to understand the gist of the lesson.





The students have learnt about the taste and smell of different food. This chapter wants them to analyse the different types of food based on their shelf life. They also will understand the different methods followed to preserve food items.





2.

LEARNING OUTCOMES

<On completion of the chapter, students will be able to:>



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1. Differentiate food items that can get spoilt in short/ long period
 2. List necessary precautions for storage of food.
 3. Explain food preservation techniques and know about the things and steps involved
 4. Application of methods to preserve food.



3. PREVIOUS KNOWLEDGE REQUIREMENT

<The below points should be refreshed before introducing the chapter:>





1) Recognize the different name of food available in the rack of your home



4. TEACHING PLAN

Follow this section for getting ideas on teaching the content covered in the chapter. The subtopic given in the first column with the matching learning outcome can be explained using instructions and resources listed subsequently



Subtopic and Learning Objective #1

LO: Differentiate the food items that can get spoilt in short/ long period

Teacher Activity

1. Teacher can introduce the chapter by asking a few questions to the students like:
 - Have you ever heard your mother telling about that the food being spoiled?
 - Have you ever thought how does bread or other food items get spoiled?
2. After the Q&A session display the image in Resource 1. The teacher can ask the student whether they know what has happened to food?
3. Give Activity 1 as a home work.
4. Ask students to explain what they have observed.
5. Introduce the terms bacteria, fungus, molds and their effects on food.
 - Food spoilage can be defined as a disagreeable change in a food's normal state. Such changes can be detected by smell, taste, touch, or sight. These changes are due to a number of reasons -- air and oxygen, moisture, light, microbial growth, and temperature.
 - While oxygen is essential for life, it can have deteriorative effects on fats, food colors, vitamins, flavors, and other food constituents. Basically, oxygen can cause food spoilage in several ways. It can provide conditions that will enhance the growth of microorganisms; it can cause damage to foods with the help of enzymes; and it can cause oxidation.

- Microorganisms -- microorganisms need water to dissolve the food they use. Water allows the food to get into bacterial, yeast and molds, where it is used for energy and growth. Water also allows waste products to escape from the cells.
 - Exposing foods to hot and cold temperatures will also cause physical spoilage
6. Perform Activity 2 in the class.
 7. Introduce the concepts like date of manufacturing, expiry date, validity etc.
 8. Perform Activity 3 for better understanding the topic.

Check for understanding:

- a. What do you mean by the statement “Best before 3 months from packaging?”
- b. What happens if you leave boiled milk in the room temperature overnight?

Resources Suggested

Textbook, chalkboard, Resource 1

Activity 1

Name of the activity – Shelf life

Type of activity – Individual/random

Learning Objective: Understand how long a food item can last without being spoiled

Use it for – Understanding the shelf life of items

Materials – Notebook, pencil

Teacher instructions:

1. The teacher may ask the student to list all the food items in their house like milk, vegetables, fruits, pulses etc.
2. The student with the help of elders at home write the name of food item and the duration it can be stored.
3. This should be given as a homework or assignment.
4. In the next class, the students can form a group of 4 or 5 members and discuss the list they have created.
5. They should highlight the names that are in common. This helps them to understand the common food item they eat and also the diversity.
6. The teacher can conclude the session by explaining the reasons behind the spoiling of food

Activity 2

Name of the activity – Formation of fungus, molds

Type of activity – Teacher will perform the activity/ students will analyse them

Learning Objective: Understand the growth of microorganisms

Use it for – Understanding the difference in texture, smell, color of a food item

Materials – A piece of roti/ bread, a box to store it.

Teacher instructions:

1. The teacher may carry a piece of bread/roti in a box to the class.
2. Tell the students that the same is going to be kept in the class for a few days.
3. The students should start analysing the change in the color and texture and smell of the item on a daily basis.
4. Once the students find the formation of molds, they can record the number of days the food lasted.
5. Instruct the students to compulsorily wash their hands after analysing the food.
6. The teacher may conclude by listing the agents that accelerate food decay.

Activity 3

Name of the activity – What is behind me?

Type of activity – Individual

Learning Objective: Analyse the food packages and the meaning of the details given on the packets

Use it for – Shelf life of food items

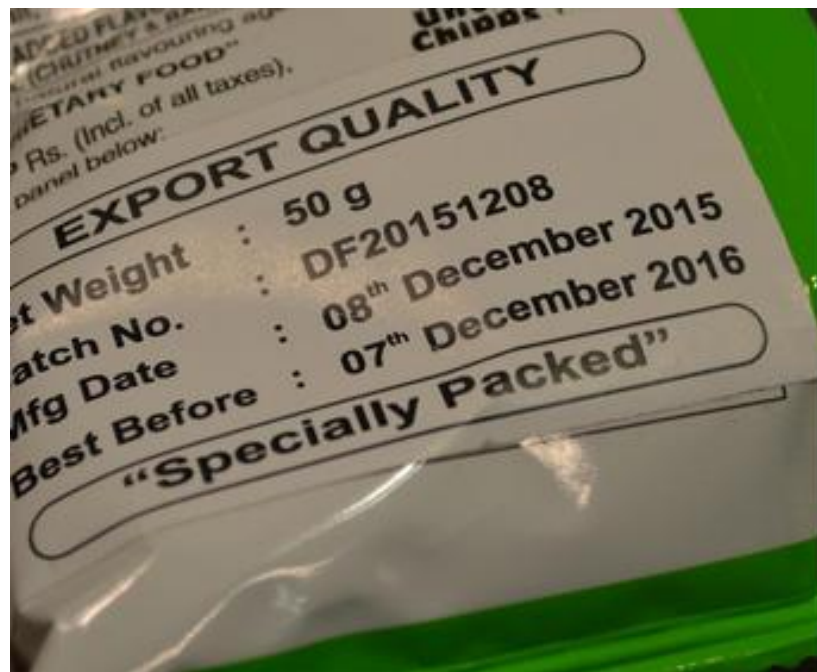
Materials – Cover of a branded chips/bread/Wheat flour/pickle etc.

Teacher instructions:

1. The teacher may ask the students to bring an empty wrapper to class which has packaging details behind.
2. The teacher can stress on the importance of looking date of manufacturing and validity.
3. The students should start analysing the details like manufacturing date, packaging date, statements like “ best before.....”/”Use before....” etc
4. The teacher may instruct the students to always keep an eye on the expiry date whenever they buy food from a shop. Also inform them about the other items for which date of expiry is important like: medicines, paints etc.
5. Foods that have exceeded the expiry date should not be consumed.

Resource 1:





Subtopic and Learning Objective #2

LO: List Necessary precautions in storage of food.

Explain food preservation techniques and know about the things and steps involved

Application of methods to preserve the food

Teacher Activity

1. Display in the images in Resource 2.
2. Then, the teacher can ask students what they know about the same, whether they have seen something similar.
3. The teacher can explain the natural methods of preserving food like:
 - Drying: Use as dehydrating foods items until there is not enough moisture to support microbial activity. It can be used with most foods, fruits, vegetables, meats, seafood, grains, legumes, and nuts
 - Fermenting: encouraging the growth of “good bugs” to inhibit the “bad bugs” that can spoil food. It can be used with many types of foods, fruits, vegetables, meats, seafood, grains, legumes, dairy, and eggs to produce a wide range of products such as wine (from grapes), sauerkraut (cabbage), cured sausage (meat), and yogurt (milk).

- Pickling :This is soaking food in a solution containing salt, acid, or alcohol. It can be used with most foods, including fruits, vegetables, meats, seafood, legumes, and eggs
 - Dry salting: Is items as salt drying must be use with a high salt concentration (20% to 25% salt), prevents microbial growth and preserves the food in a more or less fresh, although salty state. Many people familiar with the technique consider salted vegetables such as green beans to be far superior in taste and texture than canned or frozen beans.
4. The teacher can tell that refrigerator is used to store food items nowadays, uses of refrigerator can be explained.
 5. The teacher can narrate the story of “Mamidi tandra”.

Check for understanding:

- a) List the methods used to preserve food items?
- b) What is the preservative used in mamidi tandra?

Resources Suggested

NCERT textbook, Resource 2

Resource 2:





5. WORKSHEETS

Print or copy the worksheet questions on the blackboard and ask the students to attempt them. They can be given as homework or a class test as well.

Worksheet 1

Use it like: Class test, Home assignment, Revision

1. How do you come to know that the food got spoiled?
2. Name any two food items that do not get spoil for months
3. What is the need of preserving food?
4. What items do you preserve in a refrigerator?
5. Name the conditions that help the germs to grow that spoil the food.

Worksheet 2

Use it like: A class test, home assignment, revision

Choose the right answer.

1. Which of the following can last long on shelf?
 - a. Dal
 - b. Milk
2. What do you mean by manufacturing date?
 - a. Date the item was packed
 - b. Date the item was made
3. “Best before 15 days” means:
 - a. The expiry date is 15 days later
 - b. The package date is 15 days later
4. The greenish substance on spoiled bread is called :
 - a. mold
 - b. moisture
5. It is very important to read the back of the package of items that we buy from stores.
 - a. True
 - b. False



6. SOLUTIONS

This section gives you sample answers for activities and questions listed above.



Worksheet 1

1. The colour, smell and texture of the food changes as it get exposed to conditions supporting food decay.
2. Tamarind, dals.
3. All food begins to decay when exposed to favourable conditions. Most spoiling is caused by microorganisms such as bacteria or mold. The purpose of food preservation is to stop or slow down the spoilage.
4. Vegetable, fruits, dairy products such as milk, curd, paneer, ghee are a few items that are stored in a refrigerator.
5. When food items are exposed to air/oxygen, high or low temperatures, stored in places having high moisture it may get spoiled.

Worksheet 2

1. Dal
2. Date the item was made
3. The expiry date is 15 days later
4. mold
5. True



7. EXTRA RESOURCES

Carry out the following suggested activities/ tasks if you have the time and resources to do them



1. Reference Video links:

The students can be suggested to watch the following videos/ shown in class:

<https://www.youtube.com/watch?v=UWhkFYDB8J4>

<https://www.youtube.com/watch?v=MJ0GQbxRfLE>

2. Extension activity 1:

Carry out the following suggested activities/ tasks if you have the time and resources to do them

Purpose: Understand the methods to reuse the spoiled milk

The teacher may ask the students to help their mother in preparing paneer at home if they get a chance. The can use spoiled milk or milk can be spoiled by adding lemon juice to it. The curdling of milk will start.

Reference: <https://www.youtube.com/watch?v=5DQKXK26xvU>