

## Unit 2

# Health and Well-being

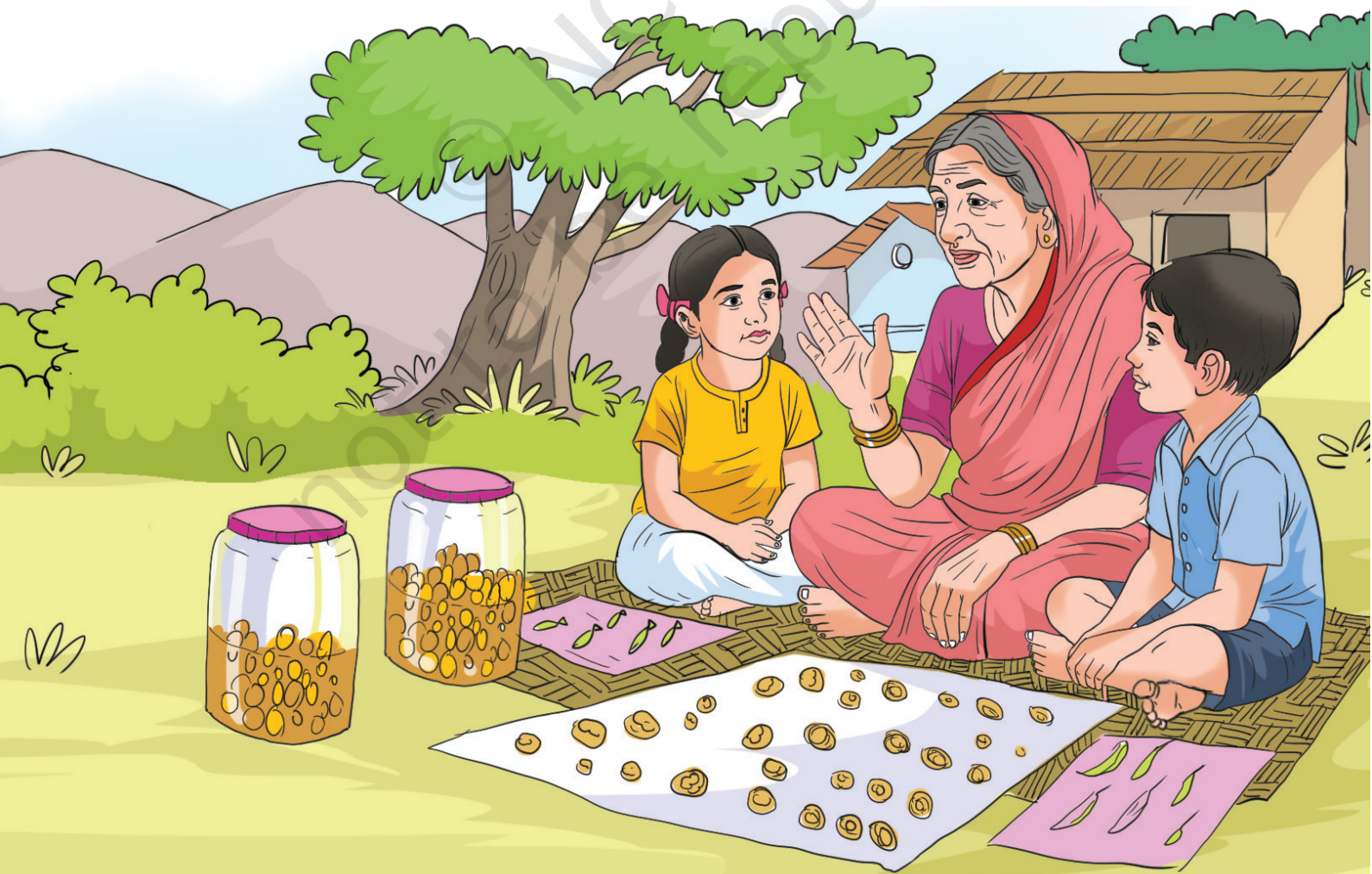
### About the Unit

This unit at the preparatory stage familiarises students with different types of food, importance of balanced food, healthcare, and maintaining good health with regular exercise and rest. Students also learn how traditional agricultural, and cultural practices supported health and well-being in sync with changes in seasons.

This unit in Grade 5 helps students explore how everyday choices support personal and collective well-being. Students learn how to take care of food

and explore various traditional Indian methods of food preservation. They learn about the role of good microbes and cultural practices that help keep the food safe.

This unit also encourages students to take care of their home and surroundings for better health. They learn how to make their school a greener, cleaner and more caring place through actions like waste management, water conservation, and practising kindness.



## Note to the Teacher

This unit consists of two chapters. Chapter 3 'The Mystery of Food' and Chapter 4 'Our School—A Happy Place'.

### Chapter 3: The Mystery of Food

- 'The Mystery of Food' follows detective Disha as she explores how food spoils due to microbes and why certain foods last longer. It covers the science behind food preservation, various preservation methods and their cultural significance. It also touches on the role of good microbes, the importance of proper food storage, and consumption in promoting health, and hygiene.

### Chapter 4: Our School—A Happy Place

- 'Our School—A Happy Place' introduces the idea of green school—a space that is clean, safe and caring for students, teachers, and the environment. Students are encouraged to reflect on improving their school through waste management, water conservation and tree plantation, while learning the importance of kindness, respect and positive behaviour in creating a pleasant school environment.



### How to Facilitate

- Encourage active observation and experimentation. Help students record their findings in a 'Food Detective' or 'School Explorer' notebook.
- Guide students in sharing personal stories or small-group discussions based on their family's food habits, or preservation techniques.
- Encourage students to explore and share any local or cultural traditions related to food preservation.
- Use real objects and school areas (like the kitchen, garden or corridors) as learning spaces.
- Arrange for students to interact with elders, kitchen staff, recyclers or local vendors to learn about food preservation, waste management, and community practices.
- Motivate students to think critically about their food habits, the role of microbes in health, and how these concepts relate to environmental sustainability.





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# 3

## The Mystery of Food

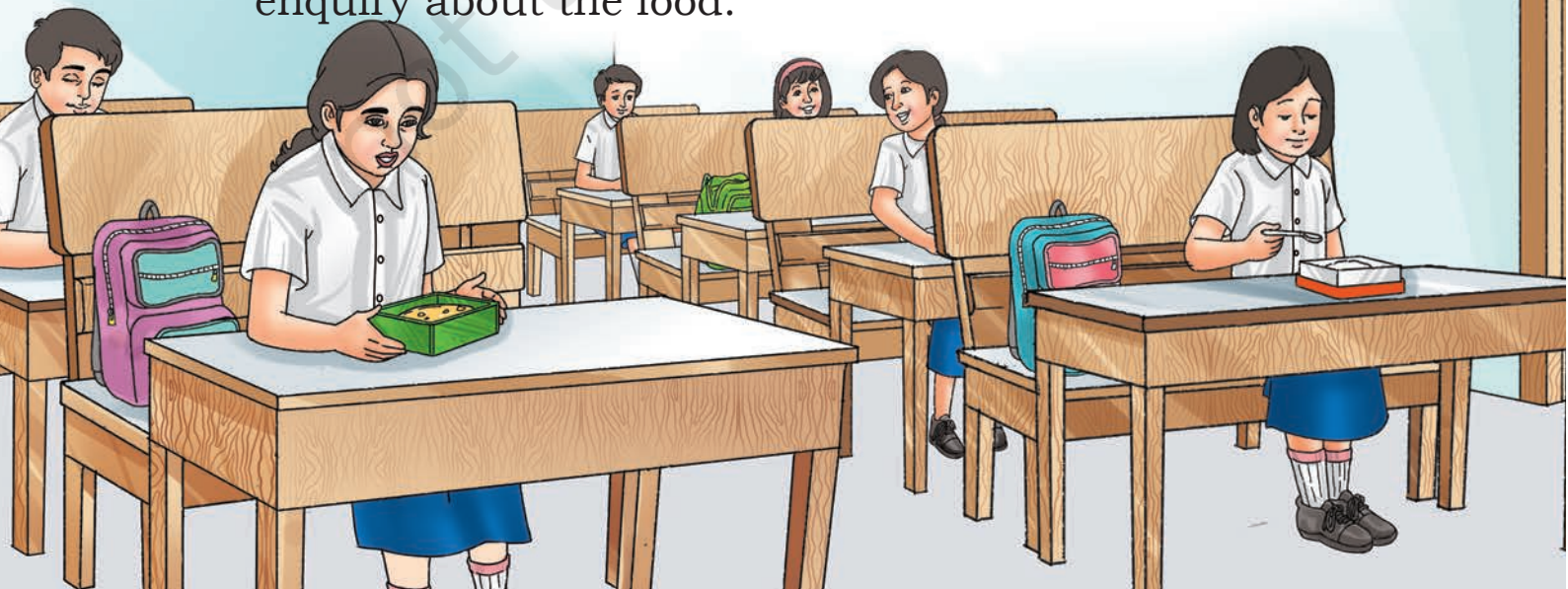
### Food Spoilage

#### The Forgotten Tiffin Box!

It was a sunny Monday morning. Disha was a curious girl, always eager to explore things around her. She found the lunch box she had forgotten in school last Friday. There was one of her favourite foods *uttapam* left in it three days ago, she remembered. When she opened the box, a foul smell came out of it. Her yummy *uttapam* had some coloured patches. What happened to my *uttapam*, she wondered! This was a mystery for Disha.

Disha was eager to find out what had caused it—detective Disha was now ready to solve the mysteries of the world around her. Food is an important part of our world. Disha started her enquiry about the food.

Time Table	



### **Mystery #1: What made my *uttapam* spoil?**

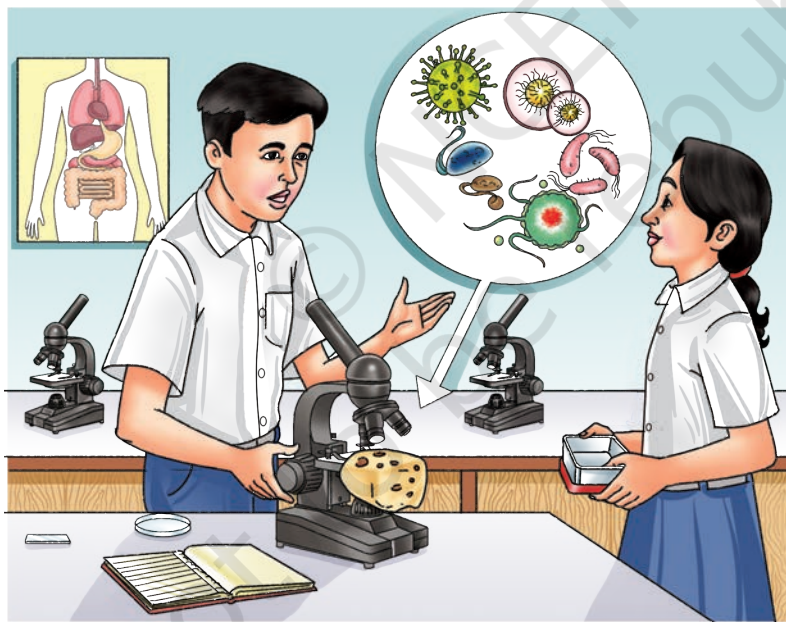
As soon as she reached home, Disha ran to her Anna (elder brother in Tamil) Aditya, who was in Grade 8.

“Anna, what are these coloured patches on the food? It does not smell good!”, Disha asked.

He looked and smiled, “That’s mould, Disha. These tiny living things are called microbes, which grew on your food and changed it.”

Disha enquired, “Microbes? Are they like little lice?”.

“Even smaller!”, said Anna. “So tiny, you need an instrument called a microscope to see them; they are everywhere, all around us. They grow on different things and make changes to them. Some microbes help us in making curd and digesting our food. They



also change the taste and smell of the *uttapam*, and other food items. We can see this mould as it is made up of a colony of thousands of microbes.”

Disha’s eyes lit up with curiosity. She quickly noted it down in her notebook—



## Finding #1

Microbes: Found in soil, water, the air around us; in plants, animals, and inside us!



Have you ever had an upset stomach? Do you know what could have caused it? What could happen if spoiled food is eaten by mistake? If yes, what did you do to get well? Share your experiences with the class.

## Mystery #2: Why do some foods spoil faster?

That afternoon, Disha noticed a slice of bread that she had left on the balcony for a cat, that did not come for two days. It had coloured patches on it, but the pickles her Paati (grandmother in Tamil) had made two months ago were still delicious as it was covered with oil!



“Strange!”, whispered Disha. “Why does some food spoil fast, and some last for a long time?”



Why do you think food gets spoiled?

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She went back to her Anna and asked, “What do these microbes need to grow?”

Anna replied, “Microbes need moisture, air and the right temperature to grow. If we remove any one of these, we can stop them in their tracks. All life needs water and air to survive”.

## **Finding #2**

We need to keep air and water away from the microbes.

## **Food Preservation**

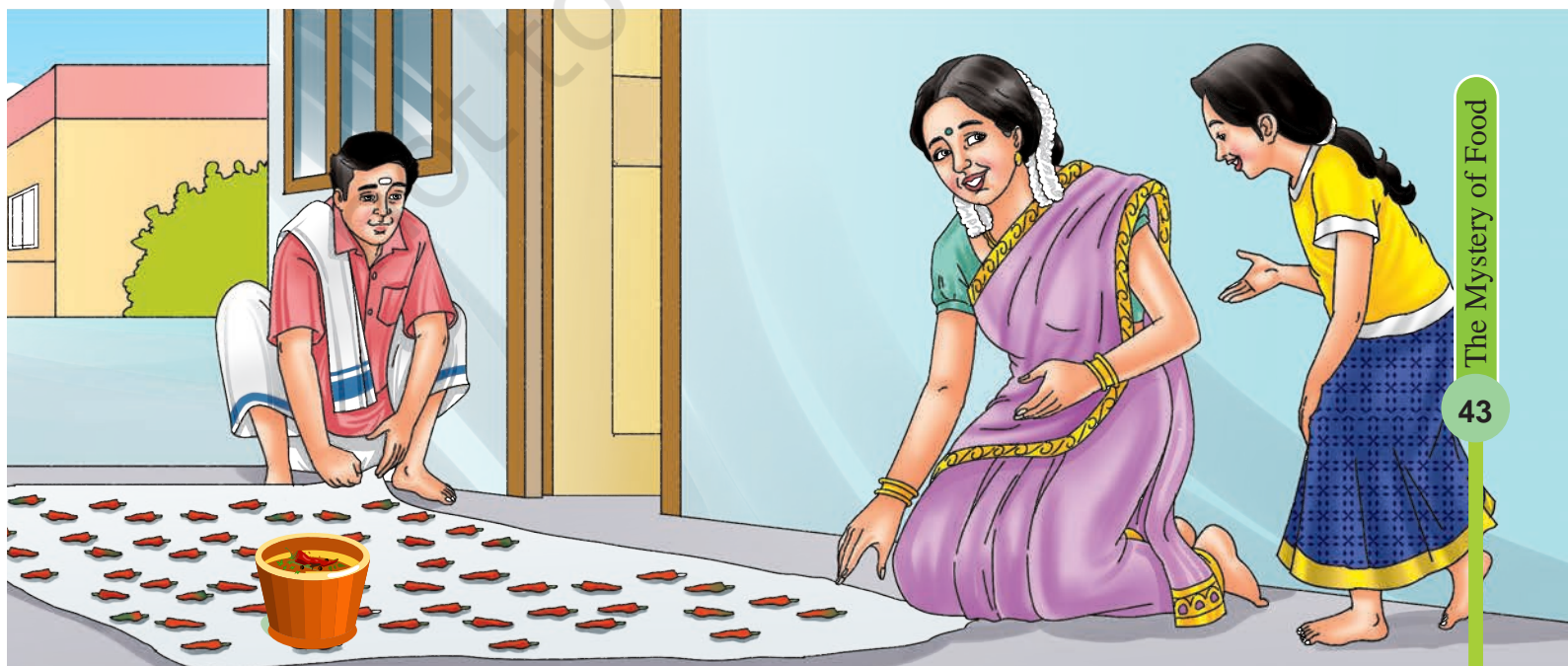
### **Mystery #3: How do we save our food from spoilage?**

Detective Disha decided to look for answers at home.

## **Let us observe**

### **Drying and Dehydration**

She saw her Amma (mother) and Appa (father) drying chillies on a mat under the Sun on the balcony. “Why are you drying these, Amma?”, she asked. “To make chilli powder. This should last us for the entire year!”, Amma answered.



### Finding #3

Drying in the Sun removes the moisture from the chillies. Without moisture, microbes cannot grow!



Write

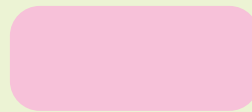
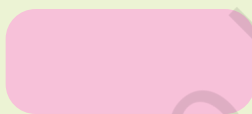


What other things are dried so that they remain unspoilt throughout the year?



### Activity 1

What items can be made from mangoes to enjoy them for longer durations? Write their names in the space given below.





## Activity 2

1. Take a tomato and cut it into slices.
2. Put the slices of tomatoes on a tray and place it on the window where the sunlight comes through.
3. What changes did you observe in the fruit?

Can you think of a way to preserve items like tomato?

### Let us observe

#### Pickling and Oiling

In the kitchen, her Paati was pouring mustard oil into a jar of pickled green mangoes. “But why is oil added to the pickle?”, Disha asked eagerly.

“Oil stops air from getting in”, Paati explained. “That keeps the pickles safe!”

#### Finding #4

Oil keeps out air and stops the growth of microbes.



## Discuss

What would happen to this pickle if no oil had been added?

### Let us observe

#### Refrigeration and Freezing

The next morning, Disha opened the fridge. Milk, vegetables, butter and a cake were stored inside.

“Fridges make the temperature too cold for microbes to grow”, Appa explained.



## Finding #5

Cold temperature slows down microbes.



**Do you know?**

### **Matka as a Cooler**

We use clay pots (*matkas*) to keep water cool.

Why does butter need refrigeration and ghee does not?

**Hint:** Find out how butter and ghee are made at home.

There are many ways to preserve food. Disha's grandfather told her that people used salt, sugar, and spices like pepper to keep food from spoiling. We still use these methods today.



1. Heat butter



2. Water separates from the butter



3. Water evaporates



4. Ghee is prepared



### **Activity 3**

Find out about food preservation practices at your family by asking the elders at home. Write at least one such practice.

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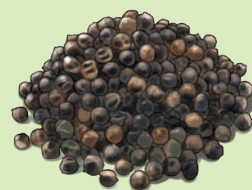


## Finding #6

There are many ways in which food is being preserved.



'Black pepper' is a common spice in our homes. In the past, black pepper had become so popular as a spice that Vasco da Gama crossed oceans to collect it from India.



Anna told Disha that in food factories food is preserved in air tight cans and packaging to keep microbes away from the food.



Insects preserved food long before humans did. Solitary wasps, particularly hunting wasps, preserve food for their larvae.



## How are Idlis made?

Disha watched her mother make idlis at home. Can you find out how idlis are made? Is there something that makes the idli batter fluffy? Do you know what it is?



### **Finding #7**

Microbes in the air help make idli batter rise.

### **Indigestion and Home Remedies**

Aditya Anna has an upset stomach after eating food in a fair.



Did you ever have an upset stomach, vomiting or indigestion? Did you use any home remedies? Write about the home remedy given to you.

Have your parents given you curd or some product like buttermilk made from it, for an upset stomach. There are small microbes in curd that join the good microbes in your stomach to help in digestion. If the problem is severe, you may have to consult a doctor and take medicines.

### **Finding #8**

Sometimes, bad eating habits can also lead to indigestion.

Disha's notebook was now full of her findings.

### **My Food, My Pride**

During her investigations, Disha learned that there are many traditional practices related to food being passed on from one generation to another in the family.

She made her detective case diary on 'My Food, My Pride'. Let us look at some new entries in Disha's diary and help her complete some of them.



## A Visit to the Vegetable Market

Thatha (grandfather) goes to the vegetable market daily. He buys fresh fruits and vegetables. It was fun to be in the vegetable market with him. Disha observed how he carefully examined the fruits or vegetables at the market before he bought them.



### Activity 4

Do you ever accompany your elders for buying vegetables and fruits? During such visits, observe how elders select fruits and vegetables in the market.

Write one thing that you learnt from your shopping trip and write it as a Finding #9, the way Disha would write.

## The Joy of Eating Seasonal Fruits!

It was raining. Appa bought lychees on his way home. Disha exclaimed with delight, “Yummy lychees, after almost a year!”. Appa said, “Lychee is a seasonal fruit so we need to wait for it!”. Disha could see the joy on everyone’s face as they peeled and shared the delicious fruits with each other.

Appa added, “But nothing to beat our local mangoes, they are so fresh because they did not have to travel far to reach us!”.



## Finding #9

Fruits taste best when they are eaten in their season. Waiting for them increases the joy.



### Write

Name three seasonal fruits or vegetables of your region. For example, *amla* in winter and *jamun* in summer.

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## Chew Right!

### Investigation: What happens to food inside your mouth?

Detective Disha was not done solving mysteries yet. “What happens to food after we eat it?”, she wondered. She looked in the mirror, opened her mouth wide and said, “Aaaaah!”.



### Activity 5

When you eat, try chewing each item properly till it breaks down into smaller pieces and then into mush. Which teeth did you use to cut and chew? Look at the diagram given on the next page and name them.

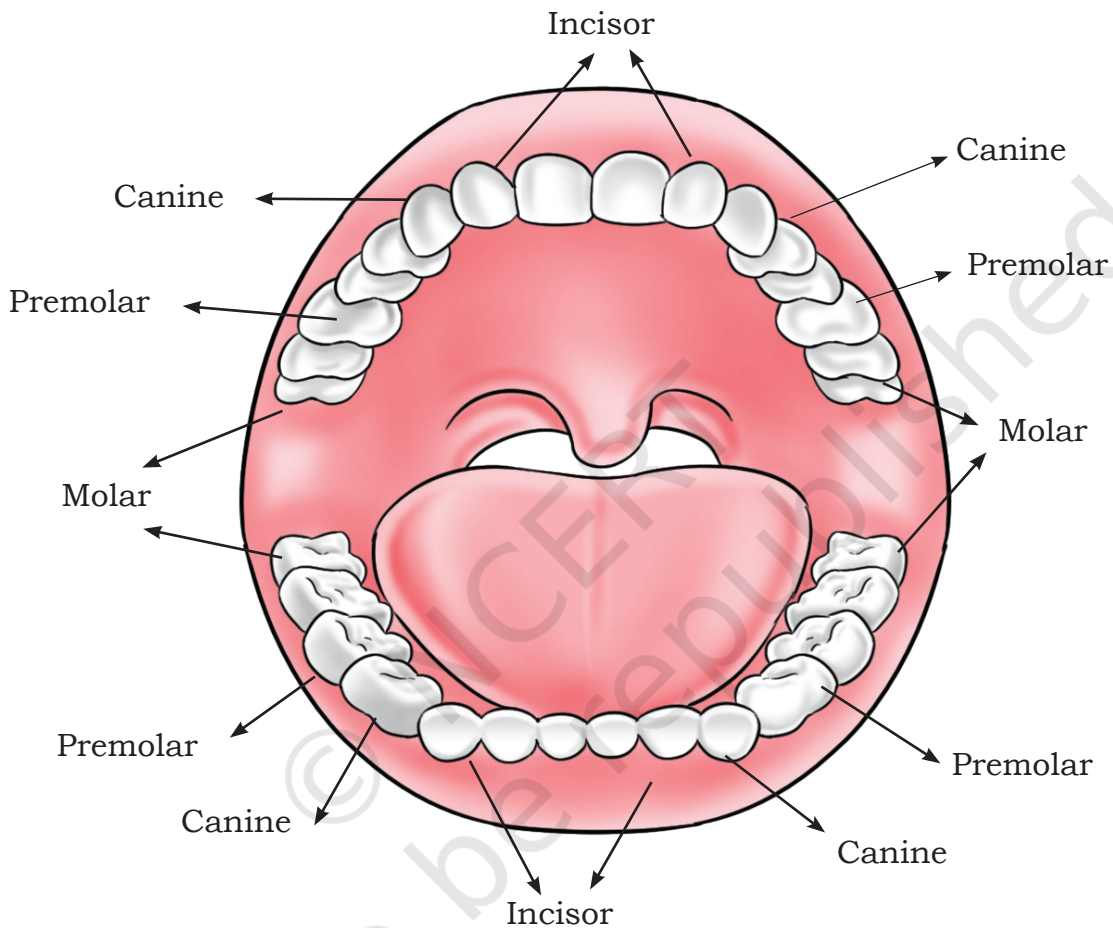
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## Teeth and Chewing

Anna said, “We have different teeth—incisors to cut, canines to tear, premolars to crush and molars to grind”.



Types of teeth

Disha wondered whether more saliva come out when you chew the food for long.

“And chewing properly releases saliva which helps digest the food”, he added.

*Eating with your hands is common in India, it helps you feel the texture of food, and prepares your stomach for digestion!*



### **Finding #10**

Chewing food properly breaks down the food and releases saliva which helps in digestion.

### **Finding #11**

Different types of teeth have different uses.

### **Oral Hygiene**

Disha was having a toothache. She visited the dentist with her parents. The doctor found a cavity—a hole in the tooth and treated it.

“Rinse your mouth after eating. Brush your teeth regularly”, the dentist advised. “Eat fewer sweets.”

### **Finding #12**

Oral hygiene is important. For a dental check-up or if any of your teeth are aching, you may need to see a dentist.

### **The Danger of Choking**

“Do not gulp down your food!”, warned Amma at dinner. “Chew your food properly!”

### **Finding #13**

I must eat my food slowly to avoid choking on it.

#### **Note to the Teacher**

The teacher needs to make sure to bring learner’s attention towards taking smaller mouthfuls and chewing them properly before swallowing. Also, advise them to avoid talking or laughing with food in their mouth.





Write

How can you avoid choking?

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## Food in Our body

### Final Discovery

Some microbes spoil our food while some help us to make food items. They also help us digest food.

Finally, the food mystery was solved.

Eat right, preserve and store right, and also chew well and thank the good microbes.

Mystery solved! Detective Disha closed her notebook with a smile.

### Let us reflect

1. Why do some food items last for weeks and others spoil in just a few days?
2. You are going on a field trip for two days. List five food items you will carry. How will you keep them from getting spoiled?
3. What if food cannot be preserved? Imagine a world without food preservation and discuss the consequences.

*Fermented rice (called pakhalā, kanji, etc.) is eaten in many parts of India, it cools the body and is full of good bacterial!*



4. Match the following.

Which method is used to preserve the following food items (A) to make the final product (B).

Item (A)	Methods of Preservation	Product (B)
<i>Roti</i>	Dehydration	<i>Khakhra</i>
<i>Papad</i>	Dried in sun	Dried <i>papads</i>
Mango		<i>Aam papad</i>
Lemon		Lemon pickle
Butter		<i>Ghee</i>
Juice		Canned juice
Chillies		Chilli powder
Fish		Dried fish

