

CHAPTER 2

UNIT 1 · HEALTH AND WELL-BEING

Teeth and Microbes

Scan me

Learning Objectives

By the end of this chapter, I will be able to:

- explain why we need teeth;
- compare milk teeth and permanent teeth;
- name the four types of teeth and their work;
- describe the parts of a tooth;
- explain how tooth decay happens and prevent it;
- explain what microbes are and how some help and some harm us;
- follow habits that keep germs away and keep body and mind healthy.

Do you know?

Your **tongue** has thousands of taste buds that help you taste sweet, salty, sour and bitter.

Fact: An adult has 32 teeth.



Bhumi Teacher says...

SEL • Self-Management

Look at your teeth in a mirror after brushing. Can you find your incisors and molars?

2.1 Why do we need teeth?

Crunch! When you bite an apple, your teeth cut, tear and grind it into small pieces. Small pieces mix well with saliva and are easy to swallow and digest.

Teeth also help us **speak clearly**. Try saying "tooth", "three" or "sixty" without letting your tongue touch your teeth! And of course, teeth give us a bright **smile**.

Do you know?

An **elephant** grows six sets of molars in its life.

Look • Talk • Notice

• Experiential Learning

Scan to watch

1. Look at the children in the picture. What are they holding?
2. How many times a day do you brush?
3. Run your tongue over your teeth. Are they all the same shape?

2.2 Two sets of teeth

Humans get **two sets of teeth** in their life.

Milk teeth

The first set is called **milk teeth** (baby teeth). They start coming out at about **6 months** of age. By the age of about 3 years, a child has **20 milk teeth**—10 in the upper jaw and 10 in the lower jaw. **Look at Fig. 2.1.**



Fig. 2.1 Meera proudly shows her fallen milk tooth. A permanent tooth will grow in its place.

Fact: Enamel cannot repair itself once it is broken.

Permanent teeth

At about **6 years** of age, milk teeth begin to loosen and fall out one by one. New, bigger and stronger teeth grow in their place. These are called **permanent teeth**. A full set of permanent teeth has **32 teeth**—16 in each jaw. They are meant to last for the rest of our life, so we must care for them well.

2.3 Types of teeth and their work

Our teeth are not all alike. Each type has a special shape for a special job. **Look at Fig. 2.2.**

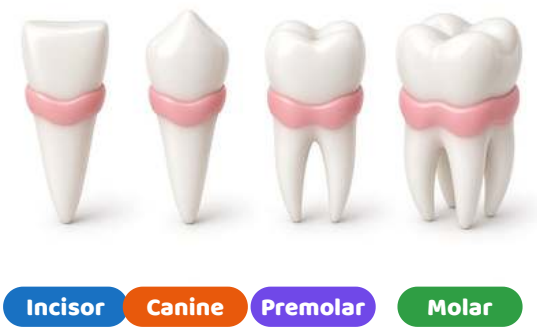


Fig. 2.2 The four types of teeth. Notice the different shapes of their crowns and roots.

Bite and Feel

• Experiential Learning

Take a bite of a carrot or an apple with your front teeth. Then chew it with your back teeth. Which teeth cut? Which teeth grind? Write what you felt.

Fact: Brush for two minutes—about as long as a short song.

2.4 Parts of a tooth

A tooth has two main parts. The **crown** is the part we can see above the gum. The **root** is hidden inside the gum and holds the tooth firmly in the jawbone.

2.5 Tooth decay

Our mouth has tiny living things called **germs** (bacteria). When food bits, especially **sugary and sticky food**, stay on our teeth, germs feed on them and make **acids**.

2.6 Caring for our teeth

Healthy teeth need care every single day. Follow these simple habits:

1. **Brush twice a day**—after breakfast and before bed—for about two minutes.
2. Use a **soft toothbrush** and only a **pea-sized** amount of fluoride toothpaste. Spit it out; do not swallow it.
3. Brush the **front, back and top** of every tooth, and gently brush your tongue.
4. **Rinse your mouth** with water after every meal or snack.
5. **Change your toothbrush** every three months or when the bristles spread out.
6. With an adult's help, use **dental floss** to clean between the teeth.
7. Visit a **dentist every six months** for a check-up. **Look at Fig. 2.3. Look at Fig. 2.4.**



Fig. 2.3 Brush gently in small circles, for two minutes, twice a day.



Fig. 2.4 A dentist shows how to brush properly on a model of teeth.

2.7 Teeth of animals

Animals have teeth suited to the food they eat.

2.8 Tiny living things: microbes

Some living things are so tiny that we cannot see them with our eyes alone. They are called **microbes** or **micro-organisms**. We need a **microscope** to see them. A microscope makes tiny things look many times bigger.

2.9 Microbes: friends and foes

Many microbes are **helpful**. Some are **harmful**.

2.10 Keeping germs away

We cannot see germs, but simple habits can stop them from spreading.

Keep clean

- Drink clean, safe water.
- Keep food covered and eat fresh, well-cooked food.
- Bathe every day and wear clean clothes.
- Wash hands with soap before eating and after using the toilet.
- Keep nails short and clean.
- Cover your mouth and nose with your elbow when you cough or sneeze. **Look at Fig. 2.5. Look at Fig. 2.6.**



Fig. 2.5 Wash hands with soap for 20 seconds before meals.



Fig. 2.6 A vaccine protects us from some serious diseases.

2.11 Habits for a healthy body

Here are more habits that keep the whole body strong.

Move and play

Play outdoors for at least **one hour** every day. Running, cycling, skipping, swimming and yoga make your heart, lungs, muscles and bones strong. **Look at Fig. 2.7.**



Fig. 2.7 Morning yoga in the park: Vrikshasana (tree pose) improves balance and focus.

Fact: Drink water, not sugary drinks, when thirsty.

Rest and sleep

Children of your age need about **9 to 12 hours** of sleep each night. During sleep the body grows and repairs itself, and the brain sorts what you learnt.

2.12 Caring for my Feelings

Being healthy also means feeling calm and happy inside. Everyone feels happy, sad, angry, afraid or worried at times. All feelings are okay —what matters is how we handle them.

Let's Recall

• Remembering

- Humans have two sets of teeth: 20 milk teeth and 32 permanent teeth.
- Incisors cut, canines tear, premolars crush and molars grind food.
- A tooth has a crown and a root; enamel, dentine and pulp are its layers.
- Germs turn sugar into acid, which causes plaque and cavities.
- Brush twice, rinse after meals, eat tooth-friendly food and visit a dentist.
- Microbes are tiny living things seen with a microscope: bacteria, fungi, protozoa; viruses are even tinier.
- Some microbes help (curd, idli, compost); germs cause disease and spoil food.
- Clean water, covered food, hand-washing, vaccines, play, sleep and calm breathing keep us healthy.

Key Words

Word	Meaning
milk teeth	first set of 20 teeth
permanent teeth	second set of 32 teeth
enamel	hard outer layer of a tooth
pulp	soft inner part with nerves
plaque	sticky layer of germs on teeth
cavity	a hole in a tooth
dentist	a doctor for teeth
microbes	living things too tiny to see without a microscope
germs	microbes that cause disease
vaccine	protects the body from some diseases

Do you know?

Sunlight in the morning helps your body make vitamin D for strong bones and teeth.

Do you know?

A **shark** can grow thousands of teeth in its lifetime. When one falls out, another moves forward to take its place.

Mirror check

• Experiential Learning

After a meal, look at your teeth in a mirror. Where do food bits stay most? Rinse and look again.

Exercises

Remember • Understand

A Tick (✓) the correct answer

• Remembering

1. How many milk teeth does a child have?
   ☐ (a) 32 ☐ (b) 20 ☐ (c) 28 ☐ (d) 12
2. Which teeth tear food?
   ☐ (a) incisors ☐ (b) molars ☐ (c) canines ☐ (d) premolars
3. The hardest substance in our body is
   ☐ (a) bone ☐ (b) dentine ☐ (c) enamel ☐ (d) pulp
4. The part of a tooth with nerves is the
   ☐ (a) crown ☐ (b) pulp ☐ (c) enamel ☐ (d) gum
5. A dentist should be visited every
   ☐ (a) six months ☐ (b) five years ☐ (c) week ☐ (d) only when teeth fall
6. Milk is turned into curd by
   ☐ (a) viruses ☐ (b) bacteria ☐ (c) protozoa ☐ (d) insects
7. Which of these is a fungus?
   ☐ (a) amoeba ☐ (b) yeast ☐ (c) cholera germ ☐ (d) flu virus

Unscramble

• Remembering

1. NLEAEM _____
2. OTOR _____
3. LMORA _____
4. NCIAEN _____

Remember: Brush twice • rinse after meals.

B Fill in the blanks

• Remembering

plaque | molars | root | gums | three

1. The _____ holds a tooth in the jawbone.
2. We grind food with our _____.
3. A sticky layer of germs on teeth is _____.
4. Change your toothbrush every _____ months.
5. Soft pink flesh around the teeth is called _____.

C True or False?

• Understanding

Correct the false ones.

1. Milk teeth start falling at about six years. ____
2. Children have premolars in their milk teeth. ____
3. A lost permanent tooth grows back. ____
4. Rats have front teeth that keep growing. ____
5. We should swallow toothpaste after brushing. ____

D Match the columns

• Understanding

Column A	Column B
1. Incisors	a. tear food
2. Canines	b. grind food
3. Molars	c. cut food
4. Enamel	d. nerves and blood vessels
5. Pulp	e. hard outer layer
6. Yeast	f. turns milk into curd
7. Bacteria	g. makes dough rise

Competency-Based Assessment

Case • Data • Real life

J Case study: the check-up camp

• Analysing

At a school check-up, the dentist found cavities in 12 out of 40 children. Most of them ate toffees daily and did not rinse after lunch. **Look at Fig. 2.8.**

1. How many children had healthy teeth?
2. What two habits caused most cavities?
3. Suggest a class rule to reduce cavities.



Fig. 2.8 A dental check-up camp at school.

Word search

• Remembering

Find: ENAMEL, PULP, GUM, ROOT, MOLAR, CROWN

E	N	A	M	E	L	Q
R	O	O	T	G	U	M
M	O	L	A	R	P	M
C	R	O	W	N	U	Z
K	T	P	U	L	P	S

Quick check

• Remembering

1. Which teeth have the flattest crowns?
2. Name the layer below the enamel.

K Read the data: sugar in drinks

• Analysing

Spoons of sugar in one glass:

Drink	Spoons of sugar
Plain water	0
Fresh lime water (no sugar)	0
Packaged juice	5
Cola drink	7
Milk (no added sugar)	0

1. Which two drinks have the most sugar?
2. Which drinks are best for teeth?
3. How many spoons are in two glasses of cola?

My Learning Check

SEL • Self-Awareness

I can...	Yes	Not yet
name the types of teeth	☐	☐
label the parts of a tooth	☐	☐
explain tooth decay	☐	☐
name groups of microbes	☐	☐
give examples of helpful and harmful microbes	☐	☐
follow habits that keep germs away	☐	☐

Draw and label

• Creativity

Draw a toothbrush and show a pea-sized blob of toothpaste on it.

Olympiad Practice

12 questions • choose the correct option

Skills: Q1–4 • Remembering Q5–8 • Understanding Q9–10 • Applying Q11 • Analysing Q12 • Critical Thinking

1. By about three years of age, a child usually has _____.
(A) 20 milk teeth (B) 32 milk teeth (C) 20 permanent teeth (D) no teeth at all

2. Which teeth are meant mainly for tearing food?
(A) Incisors (B) Canines (C) Premolars (D) Molars

3. The hardest substance in the human body is _____.
(A) dentine (B) pulp (C) enamel (D) plaque

4. Premolars are not present in _____.
(A) the permanent set (B) an adult jaw (C) a cow's mouth (D) a child's milk teeth

5. Germs on the teeth make acid mainly from _____.
(A) clean water (B) sugary food left on the teeth (C) fluoride toothpaste (D) saliva alone

6. Once the enamel of a tooth is broken, it _____.
(A) grows back in a week (B) turns into pulp (C) cannot repair itself (D) becomes a milk tooth

7. Which is the odd one out?
(A) Flu virus (B) Bacteria that turn milk into curd (C) Yeast that makes dough rise (D) Helpful bacteria in the intestine

8. Which is the odd one out?
(A) Cow (B) Goat (C) Horse (D) Tiger

9. Viruses can grow _____.
(A) in pond water alone (B) only inside living cells (C) on dry bread like mould (D) in curd like bacteria

10. A vaccine helps us mainly by _____.
(A) cleaning plaque from teeth (B) making enamel grow back (C) training the body to fight some germs (D) replacing milk teeth

11. A: Permanent teeth need special care. R: A lost permanent tooth is not replaced by a new one.
(A) Both true, and R explains A (B) Both true, but R does not explain A (C) A true, R false (D) A false, R true

12. A: Sharing a toothbrush is a healthy habit. R: Germs can pass from one mouth to another.
(A) Both true, and R explains A (B) Both true, but R does not explain A (C) A true, R false (D) A false, R true

OMR answer strip Fill one bubble for each question with a dark pencil.

1. (A) (B) (C) (D)	2. (A) (B) (C) (D)	3. (A) (B) (C) (D)	4. (A) (B) (C) (D)	5. (A) (B) (C) (D)	6. (A) (B) (C) (D)
7. (A) (B) (C) (D)	8. (A) (B) (C) (D)	9. (A) (B) (C) (D)	10. (A) (B) (C) (D)	11. (A) (B) (C) (D)	12. (A) (B) (C) (D)

Scan for answers