



UNIT 3

DREAMS AND DISCOVERIES

MY BROTHER'S GREAT INVENTION



0773CH03

Let us do these activities before we read.

I Work in pairs and guess the invention.

1. I am a concept invented by ancient Indian mathematicians. I add value to numbers. Without me, calculations in the modern digital world would be impossible. Who am I?
2. I am an ancient Indian practice, now popular globally. I focus on physical and mental well-being. What am I?

II Discuss in groups of four what you think the world today would have been like without inventions and discoveries.

III Fill the grid given below with missing letters to complete the words. These words display qualities of an inventor.

C	R		A	T		V		T				
C	U					I	T	Y				
R	I			-	T		K		N	G		
D	E	T	E			I	N	A	T	I		
I			G	I		A		I	O	N		



Let us read

racket: a loud and disturbing noise

sopping: soaking

scowling: having an angry or frowning expression

rigged up: assembled something temporarily

tinkering: experimenting or fiddling

dynamos: electric generator

I

“Who put that water bag here?” roared my father from the front doorstep. “Your burglar alarm,” I hissed to my brother Anand, who was getting ready to disappear from the house. Ma rushed in to see what the **racket** was all about and found Papa standing there, **sopping** wet and **scowling**.

“I want to know who is behind this nonsense,” Papa said grimly.

“I think it’s supposed to be a burglar alarm,” Ma said, in a soothing voice.

“I don’t care what it’s supposed to be,” Papa said.

“Where’s that boy? I’m sure he **rigged** this **up**.”

Anand had vanished by this time and reappeared only after dinner when Papa had cooled down.

Before this story, let me put you in the picture. I am Anita, fourteen years old. My brother Anand, one year younger than me, caused all that hoo-ha with his burglar alarm.

And this is not the first time he’s got on Papa’s nerves or frightened someone half to death in the house. The trouble with him is that he thinks he is a scientist. He loves **tinkering** with all sorts of electrical gadgets, tools, **dynamos**, planks of wood, and things like that. And he keeps creating ‘inventions’ that never work out as they are supposed to.

Recently there had been a rush of thefts in the colony and Anand had got it into his head that what was needed was a burglar alarm. So, the minute Papa left for the office and Ma for the market, he started on his latest scheme. As usual I had to be involved, though I’d have preferred to finish my novel. “If you get a shelling, don’t bring me in,” I warned Anand.

“Nothing will go wrong this time. I’ve planned it out carefully. See the blueprint.”



Anand loves words like blueprint—it makes him feel professional! Anyway, I looked at the **elaborate** drawing of doors, wires, and bells and asked, “How does this thing work?”

“It’s quite simple. The moment the door opens, this alarm is tripped off and makes a **clanging** sound. Then this water bag here is loosened and falls on the thief’s head. By then we call the police—simple!”

“But how does the alarm know that a burglar is opening the door?”

“I’ve taken care of that,” Anand said loftily. I had my own doubts about the alarm’s guessing powers, but kept them to myself because when Anand is in one of his inventive moods, nothing stops him.

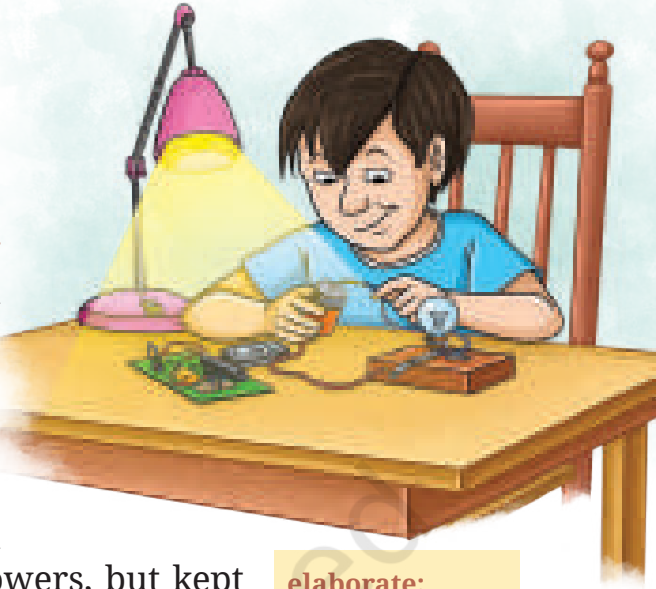
“You see,” Anand explained **smugly**, “A thief tries to open the door **stealthily**. I’ve rigged it up so that the alarm works only when the door is opened gently.”

I was **sceptical**. “Remember, if Papa asks, I’m not involved,” I warned. “Now clean up this mess before anyone gets home.”

As you already know, my doubts about the alarm were quite justified. Papa, who always opens the door softly, was thoroughly soaked and angry as angry could be. Anyway, for a week after this, Anand did not dare try out anything new. Then we saw this film ‘Back to the Future’. I don’t know if you have seen it, but it’s all about a time machine. Well, that was

the end of peace and quiet in the house.

My brother decided that he had to make a time machine too. Papa locked up his tool box and hid the key while Ma kept a wary eye on her oven and mixer. Because, as I told you, when Anand is on one of his inventing binges, he takes apart all the gadgets in the house to collect parts. You can’t imagine the noise that



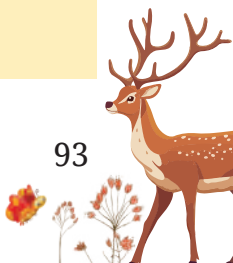
elaborate:
detailed

clanging: a loud ringing sound like that of a metal being hit

smugly: proudly

stealthily: quietly or carefully so that one is not seen or heard

sceptical:
doubtful



frantic:
hurried and
disorganised

**crestfallen
look:** sad and
disappointed
appearance

offended: felt
upset or hurt

was going on—hammering and sawing and clattering. Anand's room, next to our room, was transformed into a network of wires, springs, levers, and bulbs. There was an enormous panel which was to be control switchboard. As for Anand, he went around looking like a savage. When Ma didn't notice, the fellow didn't even comb his hair.

Anand just wouldn't let anyone into his room. Finally, after a fortnight of **frantic** activity, the time machine was ready. "We can try it out tonight," Anand announced to everyone at home at lunch time.

"I don't know what you've been up to in that room, but you're not trying out anything new," Papa said firmly.

"But it's a time machine! I've invented it," Anand protested.

"When I say NO, I mean NO," Papa said, glaring.

"Poor boy," Ma said noticing Anand's **crestfallen look**.

"At least let's take a look at it."

Papa sighed. "All right, but if the house falls, it's your fault."

As it turned out, we could not try out the time machine that day at all. The next day, Papa and Ma were going to Kharagpur, a few hours away from Calcutta (now Kolkata), for a wedding. Ma was worried about leaving us alone, but we reassured her. "We're old enough to look after ourselves, Ma," I said. "And we can go next door to Sharma Auntie if we need anything."

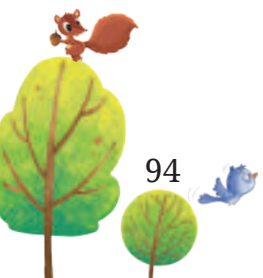
"And it's only one night," Anand added.

"All right. But promise me you won't do anything with that time machine till we come back," Ma said sternly, looking at Anand. He promised half-heartedly, **offended** at this lack of respect for his creation. I breathed a sigh of relief.

Let us discuss

I Complete the cause-and-effect table given below.

Causes	Effects
1. Anand set up his burglar alarm and rigged it to work when the door was opened softly.	



2.	Anita was able to avoid any responsibility as Anand faced the consequences alone.
3. We watched the movie 'Back to the Future'.	Anand:
4. Papa firmly said 'NO' to trying out the time machine.	

II Do you think Anand was able to keep his promise regarding the time machine? If yes, why? If no, why not?

II

They left by the afternoon train and were coming back the following evening. Anand fell asleep immediately, but I stayed up to finish a novel. At about eleven thirty I thought I heard a scratching at the front door. Telling myself it was only my imagination, I went back to the book. A little later there was a rattle and a click. I was really scared, I can tell you, what with a murder story before me and then strange noises in the middle of the night! I shook Anand and whispered, "Listen, there's someone at the door."

"Go and open it then," he muttered **groggily**.

"You silly! Someone's trying to get in," I said.

Anand sat up. "Who? What?"

"I don't know," I said. "What shall we do?"

"Let's holler for help," he said. Before we could do anything, the door swung open and we found ourselves looking at a **ruffianly** fellow with a green scarf around his neck. Anand **gasped**.

"Hey, it's Boppa!" I whispered. It was indeed the fellow who had recently begun sweeping out the compounds in our row of houses. So, he was the thief, and no wonder. He knew exactly when the occupants were out, leaving the coast clear.

The fellow gave an evil grin. "One squeak out of you and see what happens," he said, **brandishing** his **cudgel** and backing out of the room. We heard him slide the latch in.

"What do we do now?" I asked in a low voice.

groggily:
sleepily

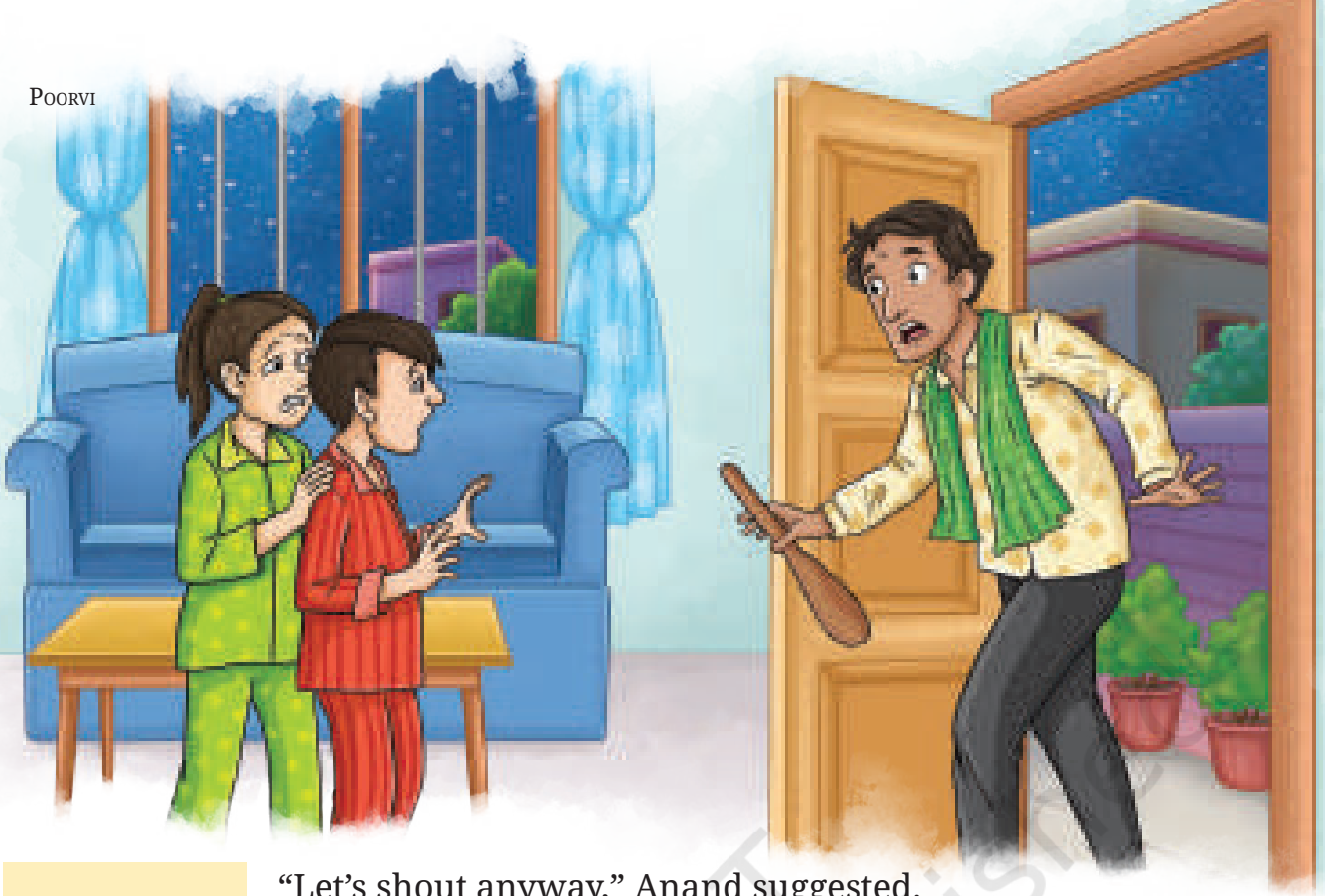
ruffianly:
rough or violent looking

gasped: took a short, deep breath in surprise

brandishing:
waving

cudgel: a short, thick stick used as a weapon





“Let’s shout anyway,” Anand suggested.

The door opened suddenly again in the middle of our discussion.

“No noise from you! Now, where is your father’s room?”

I was about to direct him upstairs when Anand said quickly, “The one next to this one.”

“You silly goose!” I said angrily as soon as the man had gone.

“That’s your room. He’ll come back as mad as mad can be.”

“At least it will give us some time to think of something,” Anand said. “He’ll take a while to locate the light switch. Let’s shout.” All of a sudden there was a crash followed by a loud scream. More strange noises emerged from the next room—a few **muffled** thumps, an **eerie** whine, and a low, humming sound.

“My time machine, he’s started it!” Anand gasped. “I wish we could get out of this room and see what is happening out there.”

There was another howl, much fainter this time, and a great deal of **clattering**. We shouted for all we were worth. In a few minutes, we heard footsteps running up our drive. Thankfully we recognised Mrs. Sharma’s voice, along with her husband and Dr. Mohan—also a neighbour.

“Anand! Anita! Children, what’s the matter? Where are you?”

muffled: not a very clear and loud sound

eerie: strange

clattering: continuous loud noises

“Here!” we shouted in **unison**. In a minute the door was unlocked.

“What on earth has been happening here, children?” Sharma Uncle asked. Both Anand and I fell over ourselves trying to explain. “Where is the fellow now?”

“The last we heard, he was in the time machine,” I explained **hastily**, seeing everyone looking rather puzzled.

unison:
together

hastily: quickly



We entered the room cautiously and turned on the lights. The time machine was still humming softly but otherwise there was no other sound from the room.

“Well, where is he?” Dr. Mohan asked, **peering** behind the door. “Did you imagine this?”

“Oh no,” I protested. “How could both of us have imagined the same thing?”

“Maybe he ran out,” Anand suggested.

“I’m sure we’d have seen him. There’s only one way out of this house and we came the same way as soon as we heard you,” Sharma Uncle sounded very sure.

“Look!” Anand said, pointing to the floor. “He was wearing that.” Near the panel of switches was the green scarf.

peering: looking
carefully



indulgently:
fondly

intruders:
people who
enter a place
without
permission

dismantled:
taken apart

niggling: slight
feeling (of)

“Let’s search the house—perhaps he’s still around,” Dr. Mohan said, going upstairs.

Boppa was nowhere to be seen. “Well maybe he did run out and we missed him,” Mrs. Sharma said at last, “I can’t imagine what else could have happened.”

“My time machine! He’s gone through that!” Anand burst out, his eyes shining.

“What an imagination this boy has!” Mr. Sharma said, smiling **indulgently**. “Now off to bed, both of you. I’ll spend the night here so you needn’t worry about any more **intruders** now.”



Needless to say, Boppa was never seen again. Anand insists that his time machine worked and he disappeared into the past. The machine itself was **dismantled** because Papa thought it wasn’t safe (maybe he also had a **niggling** suspicion that it worked), so we couldn’t try it out.

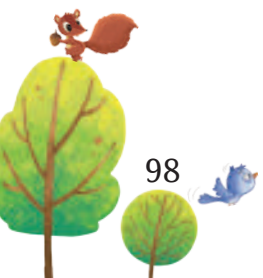
As for Anand, he is convinced that he is a genius and has launched a new project—something about a telephone to contact creatures in outer space. Tell you all about it next time.

ANITA RAU BADAMI

Let us discuss

Arrange the following events in the correct order of occurrence.

1. The door swings open, and they see Boppa, standing there with an evil grin.
2. Boppa is nowhere to be found, but his green scarf is lying near the time machine.
3. Mrs. Sharma, her husband, and Dr. Mohan unlock the door and enter the house to help the children.
4. Anita wakes Anand up, informing him that someone is trying to get into the house.
5. Anand misleads Boppa into entering his room instead of his father’s room.





Let us think and reflect

I Read the extracts given below and answer the questions that follow.

1. *Before beginning this story, let me put you in the picture. I am Anita, fourteen years old. My brother Anand, one year younger than me, caused all that hoo-ha with his burglar alarm. The trouble with him is that he thinks he is a scientist. He loves tinkering with all sorts of electrical gadgets, tools, dynamos, planks of wood, and things like that. And he keeps creating 'inventions' that never work out as they are supposed to.*

- (i) Complete the following sentence suitably by choosing the correct option from those given in the brackets.

When Anita says, "...let me put you in the picture", she wants to _____ (introduce/summarise) the situation for the benefit of the readers.

- (ii) Anand loves 'tinkering' with all sorts of electrical gadgets. This means that he enjoys _____ gadgets.
 - A. dismantling and creating
 - B. labelling or naming
 - C. repairing or improving
 - D. collecting and displaying
- (iii) Which of the following options most suitably describes Anand's personality?
 - A. methodical and cautious
 - B. creative and experimental
 - C. energetic and hasty
 - D. shy and reserved
- (iv) Based on the extract, compare what Anita thinks of her brother Anand with what he thinks of himself.

2. *I was about to direct him upstairs, when Anand said quickly, "The one next to this one."*

"You silly goose!" I said angrily as soon as the man had gone.

"That's your room. He'll come back as mad as mad can be."

"At least it will give us some time to think of something," Anand said. "He'll take a while to locate the light switch. Let's shout." All of a sudden there was a crash followed by a loud scream. More strange noises emerged from the next room—a few muffled thumps, an eerie whine, and a low, humming sound.

- (i) Complete the sentence given below with a suitable reason.

Anita was angry with Anand because _____.

- (ii) Which action of Anand shows his presence of mind?

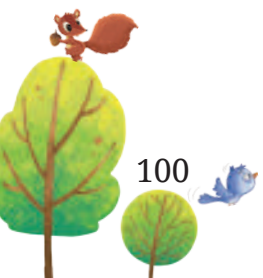


- (iii) What might be the cause of the strange noises emerging from the next room?
- The intruder moving furniture around
 - Anand's time machine getting activated
 - The intruder locating the light switch
 - Anand's invention malfunctioning
- (iv) Which of the following best describes the atmosphere in this extract?
- relaxing
 - peaceful
 - tense
 - sad
 - suspenseful
 - joyful
- (a) A, D and E (b) B and F (c) C and E (d) Only D

II Complete the table with the suitable traits of the characters based on evidence from the text. Choose the traits given in the box below. An example has been done for you.

creative curious careful responsible bothersome confident

Character	Traits	Evidence from the Text
Anand	1. bothersome	<i>And this is not the first time he's got on Papa's nerves or frightened someone half to death in the house.</i>
	2. _____	<i>He loves tinkering with all sorts of electrical gadgets, tools, dynamos, planks of wood, and things like that. And he keeps creating 'inventions' that never work out as they are supposed to.</i>
	3. _____	<i>"Nothing will go wrong this time. I've planned it out carefully. See the blueprint."</i>
Anita	1. _____	<i>"We're old enough to look after ourselves, Ma..."</i>
	2. _____	<i>"But how does the alarm know that a burglar is opening the door?"</i>
	3. _____	<i>"Now clean up this mess before anyone gets home."</i>



III Answer the following questions.

1. What prompted Anand to create the burglar alarm?
2. How did Anand's father become the target of the burglar alarm?
3. How did Anand's parents and sister react to his ideas?
4. How did Anand behave when he was on his 'inventing binges'?
5. Why did Mr. Sharma not believe Anand when he spoke about his time machine?
6. Give an ending to this story, explaining what might have happened to Boppa.



Let us learn

I Read the highlighted word in the following sentence.

*It's quite simple. The moment the door opens, this alarm is tripped off and makes a **clanging** sound.*

Such sound words are called onomatopoeic words.

Onomatopoeia is the use of words that imitate actual sounds of the thing they describe. The 'boom' of a firework exploding, the 'ding-dong' of a bell, the 'pitter-patter' of rain drops, the 'tick-tock' of a clock are all examples of onomatopoeia.

1. Read the sound words used in the story in Column 1. Complete Column 2 by matching expressions from the box given below. An example has been done for you.

whispered angrily
constant and loud construction noises
sudden loud sound of breaking
a continuous low and soothing sound

Column 1	Column 2
(i) Crash	sudden loud sound of breaking
(ii) Humming	
(iii) Hissed	
(iv) Hammering, sawing, clattering	





II Read the highlighted phrase in the following sentence from the text.

*Well, that was the end of **peace and quiet** in the house.*

The highlighted phrase displays a combination of two words generally used together in a fixed order. Such phrases are called binomials.

Binomials are expressions consisting of two words, usually linked by a conjunction such as 'and' or 'or' that are commonly used together in a fixed order. The two words convey a single meaning or an opposite.

1. Match the words in Column 1 with the correct pairs in Column 2 to make binomials.

Column 1	Conjunction	Column 2
(i) safe	and or	A. break
(ii) odds		B. cons
(iii) make		C. never
(iv) pros		D. take
(v) now		E. sound
(vi) give		F. ends

2. Complete the following sentences with suitable binomials from 1.

- (i) This project will be a _____ moment for our team's success.
- (ii) After a long journey, we were relieved to arrive home _____.
- (iii) Every friendship works well when there is a balance of _____.
- (iv) She organised all the _____ in the cupboard, to make space for new clothes.
- (v) Before making a decision, it is important to weigh the _____ carefully.
- (vi) This is our final chance to perform on stage, it is _____.

3. Complete the paragraph by using the phrasal verbs given in the box below.

tripped off let up turned out ran out of rigged up



It had been raining and we (i) _____ time to set up for the function, so we quickly (ii) _____ some decorations using whatever materials we had. We accidentally (iii) _____ the fire alarm because of the smoke from the bonfire. Thankfully, the rain (iv) _____ just as the guests were arriving, and despite all the chaos, the function (v) _____ to be a huge success.

III Read the highlighted expressions in the following sentence from the text.

*And this is not the first time he's **got on Papa's nerves** or **frightened someone half to death** in the house.*

The highlighted expressions are called idioms.

An **idiom** is a phrase or expression that has a meaning different from the literal meaning of the individual words. It is like a special saying that people understand in a specific way. For example, 'It is raining cats and dogs' means it's raining very heavily.

Complete the following sentences by filling in the blanks with suitable idioms from the text given in the box below.

leaving the coast clear get on our nerves fell over ourselves
frighten me half to death get a shelling

1. Shekhar knew he would _____ for breaking his mother's favourite flower vase.
2. We _____ trying to help the injured dog and get it to the vet as quickly as possible.
3. Faizy distracted Kanchan, _____ for us to get inside the room to prepare the birthday surprise.
4. The constant power fluctuations during meetings can _____.
5. When I am alone at home, any unexpected loud noise in the night can _____.

IV Read the highlighted words in the given sentence.

*It **was** indeed the fellow who **had** recently **begun** sweeping out the compounds in our row of houses.*

Here we refer to two completed actions—the recent past (new action) and the later past (old action).



- Underline the verbs in simple past and past perfect tense for the following sentences from the text.
 - Ma had rushed in to see what the racket was all about and found Papa standing there, sopping wet and scowling.
 - Anand had vanished by this time and reappeared only after dinner when Papa had cooled down.
- Fill in the blanks with the simple past or past perfect form of the verbs given in brackets.
 - After Rohan A. _____ (finish) his homework, he B. _____ (decide) to go for a walk. He C. _____ (leave) the house and D. _____ (realise) he E. _____ (forget) his keys inside.
 - By the time we A. _____ (reach) the station, the train B. _____ (already/leave). We C. _____ (wait) for the next one to arrive.
- Combine the pairs of sentences using the time expressions in the boxes given below and rewrite them using the past perfect tenses. An example has been done for you.

Example: Rohan had packed his suitcase before he left for the airport.

Old Actions	Time Expressions	New Actions
(i) Rohan packed his suitcase.	before, after, by the time, when	He left for the airport.
(ii) We started work.		He arrived in the morning.
(iii) They set up the tents.		The others brought food and medicine.
(iv) The students became quiet.		They heard the teacher coming.
(v) The villagers left the village.		The flood submerged the entire area.



Let us listen

I You will listen to a conversation between Anita and Toby. Toby is a Martian and is stranded on Earth. He has become Anita's friend. As you listen, choose the **true** statements from 1–5 given below. (Transcript for the teacher on pg. 136)

1. Toby misses his school.
2. Anita accepts Toby as her friend.
3. Anita asks Toby about one of his facial features.
4. Toby tells Anita that she had a banana for breakfast.
5. Toby shares that he can see much clearer with a closed eye.

II Listen to the conversation again and fill in the blanks with the exact words you hear.

1. Toby: I miss my _____ and home.
2. Toby: Well, we _____ don't need to eat anything. We get our _____ from the Sun.
3. Anita: Oh! Don't you ever feel like having ice creams and _____?
4. Anita: Okay, tell me one thing. How are you able to see with only _____ eye?
5. Toby: I can see beyond mountains and _____, woods and even _____.



Let us speak

I Read the following sentences from the text.

As usual, I had to be involved, though I'd have preferred to finish my novel.

"We're old enough to look after ourselves, Ma," I said.

The word 'though' is pronounced to rhyme with the word 'low'.
The word 'enough' is pronounced to rhyme with the word 'puff'.

In English there are many words ending with -ough, which are pronounced very differently. Listen to the teacher say these words aloud and notice how they are pronounced.

bough	dough
through	cough
thought	plough



Now, work in pairs. Pronounce these words out loud and put them in the correct boxes given below.

Sounds like 'oo'	Sounds like 'off'	Sounds like 'o'	Sounds like 'ow'	Sounds like 'aw'

Share more words that sound similar to the words in the table.

- II Read the story given below aloud. Check the correct pronunciation with the teacher.

In spite of a nagging **cough**, the woman continued working in her farm, right **through** the **rough** weather. She filled up the **trough** with water for her cows and **ploughed** the fields to plant the seeds. She then plucked some raw mangoes from a low **bough** of a mango tree to make a spicy chutney. **Though** the day had been **tough**, she smiled peacefully as she had already prepared **dough** to make **enough** rotis for dinner.

- III Now try saying this tongue twister fast as many times as you can clearly.

The boy with the tough dough on the rose bough fell in the trough and caught a cough.



Let us write

Think about different vocations that you see around or you are currently studying.

For example: electrician, mechanic, chef, nurse, graphic designer. You may add more vocations to the list given here.



Now, choose a vocation and write a paragraph. You may use the hints given below.

- why you like this vocation
- what training is needed
- what tools and equipment are required
- who would your co-workers be
- highlight the importance of team work
- how you would deal with the customers
- how you plan to pursue it with a sense of pride



Let us explore

Creativity is 'thinking new things'; innovation is 'doing new things' and an invention is 'bringing ideas or objects together in a novel way to create something that did not exist before'. All it takes is a simple idea.

Human beings are naturally very curious and creative, and this has led to many scientific and technological inventions. You must have heard about many famous inventions. Some of them are mentioned below. You may look for the names of more such Indian inventors and their inventions.



- Sushruta (sixth century B.C.), was a pioneer figure in medical science. His innovations in surgery paved the way for modern surgery.





- Dr. Janaki Ammal (Padma Shri) was a brilliant woman scientist of India who made a significant contribution to the field of cytogenetics.

- Under the directorship of Dr. A.P.J. Abdul Kalam (Bharat Ratna), Indian Space Research Organisation (ISRO) launched the satellite Rohini in near-earth orbit with India's first Satellite Launch Vehicle in 1980 (the project was named 'SLV-III').



- Dr. Narinder Singh Kapany (Padma Vibhushan) is known as Father of Fibre Optics. He played a pivotal role in inventing fibre optics. He was named one of the seven 'Unsung Heroes of the Twentieth Century' for his invention.