



10

NOISE: HOW IT AFFECTS OUR LIVES

Every morning we wake up to various sounds around us. If we lived in villages we would wake up to sounds like chirping of birds or the mooing of cows. If we lived in towns we would hear the chime of the clock or car horns as we awake. Which of these sounds are pleasant and melodious, and which are unpleasant and harsh? Let us read the lesson and distinguish between the welcome and unwelcome sounds.



OBJECTIVES

After completing this lesson you will be able to:

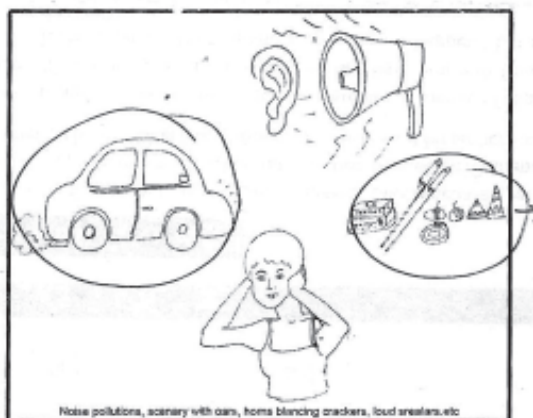
- discriminate between sound and noise;
- recognise avoidable and unavoidable noise;
- refrain from making avoidable noise;
- create a personal plan to reduce noise pollution;
- identify and use some homophones appropriately;
- define and form compound words;
- form 'wh' and 'yes/no' questions;
- make a verbal complaint;
- make notes, and
- summarise a given text.



10.1 LET US READ THE TEXT

What is noise? Any unpleasant sound is noise. It's something we don't like. It's something that makes us cover our ears. The wail of a fire engine, a clap of thunder, the screech of a car's tyres when the brakes are put on suddenly.

How much sound is too much? At what level does sound become noise? Well today sound can be measured scientifically. The level of sound is measured in decibels. A decibel meter is used to register sound. Zero decibel is equal to the faintest sound heard by the human ear. A decibel meter in a quiet bedroom may register around 35 decibels. In a classroom during a quiet period it may register around 50 decibels. This level is comfortable on the ears. It is said that most people speak in a range between 45 and 75 decibels.



Noise damages ears at 85 decibels. Hearing loss can begin when the noise level goes above 100 decibels, and actual pain is felt at 140 decibels. Some people, however, may experience pain at a lower level.

Noise pollutes our environment just as much as smoke, foul water, dirty air and litter. It can cause illness and deafness. The human body never gets used to noise. It continues to react even though a person thinks he or she has become used to all the surrounding noises. For instance, Naseer who lived in an apartment on a busy street often boasted that he could sleep through any kind of noise. He claimed he just didn't hear it. Well, Naseer could sleep through the roar of traffic and the blare of a television set in the next apartment, but he didn't know that while he slept his body was reacting to the stress of the noise.



wail: cry in a loud voice, (here) loud noise
screech: make a harsh sound
clap: a loud explosive noise e.g. of thunder
decibel: unit for measuring the loudness of sound

litter: bits of paper, discarded wrappings, bottles etc left lying in a room or public place
instance: example, facts supporting a general truth
apartment: set of rooms, flat
blare: loud sound or noise



Notes

Noise: How it Affects Our Lives

A doctor in West Germany, after studying the effects of noise, concluded that sounds heard by persons when they are asleep can cause danger to their hearts and blood vessels. Maybe this was the reason why Naseer had headaches. Noise causes the blood vessels in the brain to expand. It brings on pain.

Another doctor was researching the effects of loud music by talking to players in a rock band. One of them called out, "Speak up, Doctor, we can't hear you".

The doctor discovered that all the players suffered from some hearing loss and two of them were partly deaf. The noise level of the music they played ranged from 105 to 115 decibels and they played for more than eleven hours every week.

It's the length of time, often hours and hours, of being exposed to loud noises that damages the sensitive part of the inner ear.

What can you do? If you start thinking about the harmful effects of noise, you will become quieter yourself. There are many steps you can take to cut down noise. At school, for instance, instead of slamming books on a desk, place them quietly. Instead of walking noisily through the halls, walk quietly.

At home use one mechanical device at a time. In other words, don't run the vacuum cleaner and the washing machine at the same time. Turn down stereos, radios, tape recorders, and televisions sets. And don't turn on more than one at the same time.

Many cities have passed strong anti-noise regulations. Progress is being made towards a quieter world, but if we want to get rid of the rattle, bang, and roar all round us, we have to start being quiet ourselves

10.2 LET US UNDERSTAND THE TEXT

10.2.1 PART 1

What is noise? at a lower level.

Do you know that a loud and unpleasant sound which we don't enjoy is called 'noise'? The sound of thunder, fire engines and screeching of tyres are some examples of noise.

The level of sound can be measured scientifically in decibels. Sound is measured with an instrument called decibel meter.

The softest sound that we humans can hear is at Zero decibel. We usually speak in the range of 45-75 decibels which is comfortable to our ears. When we shout or raise our voice we are speaking at a higher decibel that is hurtful to our ears.

At 85 decibels noise becomes harmful. Sound that measures more than 140 decibels can cause great damage.

slamming: shutting or dropping something violently and noisily
device: something invented or adapted for a special purpose

vacuum cleaner: an apparatus which takes up dust and dirt etc and cleans up the place

regulations: rules
rattle: to make a short, sharp, quick sound



LET US TALK 10.1

Jayant is preparing for his examination. His neighbour's son, Ajay is playing some loud music on his tape recorder. Jayant is not able to concentrate. He walks up to Ajay's house and complains about the loud music.

Read the dialogue given below:

Jayant: Uncle, please ask Ajay to lower the volume of his tape recorder.

Mr. Roy: I know you have your exams but Ajay is practising a dance which he has to perform in his college tomorrow.

Jayant: That is alright, Uncle but I just can't concentrate on my studies. I'm sure he can practise even if the music is softer.

Mr. Roy, I understand your problem, Jayant. I also know this noise is not good for any one of us. I'll try to persuade Ajay not to play the music so loudly.

Jayant: Thanks, Uncle. Bye.



LET US DO 10.1

Role-play

Using the above dialogue as a guideline, practise making complaints about the following situations with the help of a friend or build a buddy team and complete the activity.

- a noisy classroom
- the honking of horns near a hospital



INTEXT QUESTIONS 10.1

I. Answer the following questions:

1. What is the difference between 'sound' and 'noise'?
2. List out three examples each of sound and noise.
3. What is the unit of measuring sound called?
4. Up to what level is sound tolerable to the human ear?
5. What are the sounds that you find intolerable and why?



Notes

II. Say whether the following statements are true or false.

- a. Every sound is noise to human ears.
- b. The sound made by a fire engine is noise.
- c. Noise can be injurious to health.
- d. Noise does not pollute the environment.
- e. Noise below 145 decibels is safe for every human being.

III. Fill in the blanks in the following sentences:

- a. The sound made during normal conversation measures ____ decibels.
- b. Beyond _____ decibels, noise can be painful to the ears.
- c. The screech of a car tyre is very _____ to the ears.
- d. The method of measuring sound is _____.
- e. In order to protect ourselves against _____ it is necessary to keep a check on noise.



LET US LEARN NEW WORDS 10.1

1. Find out some words from the dictionary which have the same meaning as *noise*.
2. Given below are some words/phrases. Write 'noise' or 'sound' against each as the case may be.
 - a. screech of tyres
 - b. soft music
 - c. ticking of a clock
 - d. beating of drums in a marriage procession
 - e. normal speech
 - f. clap of thunder
 - g. sound made by a fire engine
3. There are many words in English that sound the same but are spelt differently. Such words are called 'homophones' (literally meaning same sound). Example: tale, tail, mail, male, meat, meet. Fill in the blanks choosing the right word from the brackets:
 - a. We applied the _____ and the car stopped. (breaks/ brakes)
 - b. Sumeet danced with joy when he _____ that he had got a job. (heard/ herd)
 - c. The window _____ were made of unbreakable glass. (pains/ panes)
 - d. The dog chased the _____ of sheep. (herd/heard)
 - e. Don't keep the glass near the gas, it will _____. (brake/break)



- f. He has a sharp _____ in his knee because of a fall. (pain/pane)
- g. I can't _____ having cats in the house. (bare/bear)
- h. Everyone must have at least the _____ necessities of life. (bare/bear)
- i. I check my _____ every day. (mail/male)
- j. The peacock is a _____ bird. (mail/male)

? **DO YOU KNOW**

- Every exposure to loud noise destroys some cells in our body.
- Noise pollution is a major threat to the quality of human lives.
- The noise made by exploding crackers can cause permanent hearing loss.
- If nothing is done about noise pollution now, a great percentage of future generations will have damaged hearing.
- The Supreme Court passed an order on July 18, 2005 banning noise from all sources at night and restricting noise in all public places during the day.

10.2.2 PART 2

Noise pollutes. every week.

We all understand that air pollution causes breathing problems and water pollution can cause a variety of diseases like typhoid. Noise pollution is also very harmful. Do you know that noise around us affects us even while we sleep? We just don't realize its harmful effects immediately however the problems are felt later.

Research shows us that continuous exposure to noise can cause head aches, heart problems and also hearing loss.



INTEXT QUESTIONS 10.2

- 1. Write three bad effects of noise.
 - a.
 - b.
 - c.



Notes

2. Was Naseer aware of the damage the noise caused? How do you know?
3. How did the noise affect Naseer?
4. Why did Naseer often have headaches?
5. What do you think Naseer should do to reduce his headaches?
6. Why do blood vessels in the brain expand?



LET US LEARN NEW WORDS 10.2

1. Find words from the passage which mean the following:
 - a. complete loss of hearing
 - b. risk
 - c. pain in the head
 - d. found
2. Fill in the blanks with appropriate words from the passage.
 - a. One should not _____ about ones riches.
 - b. Our blood vessels shrink in the winter and _____ in the summer.
 - c. After a medical check up the school authorities _____ that most of the children had poor eyesight.
 - d. Whenever I go out in the hot sun I get a _____.



LET US DO 10.2

On any working day, observe your own behaviour from morning till evening. Note how much noise has been caused by you to pollute the environment. Also try to think what noises could have been avoided and list them in the table below. Write down how you plan to reduce noise in your life.

Noise pollution generated by me

Avoidable noise pollution	Unavoidable noise pollution



DO YOU KNOW

Noise pollution is...

- health hazard for the sick
- distraction to students
- stress to children
- disturbance to those resting
- discomfort to pets
- disrespect to the community

Creating noise is...

- violation of the Hon'ble Supreme Court's directions
- punishable if loudspeakers are used without Police Permission between 10 p.m. and 6 a.m.
- illegal in silence zones
- punishable under the Environment(Protection) Act, 1986 with imprisonment up to 5 years or a fine of Rs. one lakh or both
- offence under Delhi Police Act - DJ and other equipments liable to be seized.



LET US DO 10.3

Observe your neighbourhood and write down one incident that has violated the norms laid down by the government.

10.2.3 PART 3

It's the length of time quiet ourselves

Is there no escape from the bad effect of noise? Let's read this passage and find out.

We should realise the harmful effects of loud noise and think of ways to bring down the noise level. We can observe silence for some time and avoid playing loud music.



INTEXT QUESTIONS 10.3

Answer the following:

1. How is the inner ear damaged?



Notes

2. What will happen if we ourselves start thinking about the harmful effects of noise?
3. Why does the author advise people not to slam or throw books on a desk but put them down gently.
4. List out the different gadgets you use at home. Which of these makes the most noise? How does its noise affect the members of your household?



LET US DO 10.4

Now that we have become aware of the harmful effects of noise pollution, discuss with your friends how you can help reduce it and contribute towards protecting the environment.

1. Make posters and slogans depicting the ban of the following things between 10 pm and 6 am:
 - loudspeakers
 - bursting of crackers
 - beating of drums
 - amplified music

Let's try to form groups of students and go from door to door and create awareness in people

- to observe silence for sometime daily
- to talk softly
- not to shout at each other
- not to provoke animals to wail and cry
- not to play loud music
- not to use too many gadgets at a time
- not to use loud speakers at night
- to switch off the engines of cars or scooters at red lights
- not to honk horns as far as possible
- not to burst crackers even during festivals, functions and ceremonies



LET US LEARN NEW WORDS 10.3

1. Find words from the passage which are opposite in meaning to the following:
 - a. outer



- b. harmless
- c. noisier

II. Compound Words

Look at the following words that occur in the passage:

- vacuum cleaner (vacuum + cleaner)
- washing machine (washing + machine)
- tape-recorder (tape + recorder)
- dishwasher (dish + washer)

These words are formed by combining two words and are called compound words. Compounding is a process of word formation by which usually two (but sometimes more) words are combined to form a new word. These words may be noun+noun, noun+verb, noun+adjective, adjective + noun, adjective + verb etc. etc. Compound words, thus formed, behave as independent words and not merely as combinations of other words. They are listed separately in the dictionary. They lose their independent entity and become part of a new word which functions as a single word even if it is written as two words.

Look at some more compound words.

blacklist, black box, clean-shaven, flowerpot,

In the word *flowerpot* the two words *flower* and *pot* lose their identity and the third word *flowerpot* behaves like any other noun. It can have a plural form and can take an adjective. A red flowerpot is not a pot for growing red flowers but a flowerpot which is red in colour.

Similarly the words *black* and *list* lose their independence and become a new word, meaning a list of the names of people, companies, products that are considered unacceptable and must be avoided.

Blackbox is a small machine in an airplane that records all the details happening during a flight and is useful for finding out the cause of an accident, if any.

Clean- shaven refers to a man who does not have a beard.

In some cases the meaning of the compound word is not very different from the combined meanings of their parts, e.g. washing machine is a machine used for washing and an armchair is a chair which has support for the arms, therefore, it has to do with *arms* as well as *chair*.

However, there are many compound words whose meanings have nothing to do with the meanings of their parts. Their meanings are idiomatic, e.g. blockhead means a foolish person. Hardware stands for tools and equipments used in the home or garden.

Compound words come in three forms

- closed— two parts written without a space between them , e.g. afternoon, pickpocket,
- open — two parts written with a space between them, e.g. fancy dress, mother tongue,



Notes

- hyphenated- two parts with a hyphen between them, e.g. man-eater, baby-sitter.
- 2. Form compound words taking one word from column A and one from column B. Look up the dictionary to find out if they are open, closed or hyphenated compound words and write them accordingly.

<u>A</u>	<u>B</u>
a. identity	proof
b. time	cream
c. ice	quake
d. earth	table
e. dry	fearing
f. water	stick
g. High	clean
h. God	card
i. black	court
j. walking	board



10.3 LET US LEARN GRAMMAR

Revision exercise: Yes/No questions

1. In the lesson, 'A Birthday Letter' you have learnt how to form 'Wh' questions. Form questions to which the following may be the answers, based on the underlined phrases.
 - a. A decibel meter is used to register sound.
 - b. A decibel zero sound is equal to the faintest sound heard by the human ear.
 - c. Noise damages ears at 85 decibels.
 - d. Actual pain is felt at 140 decibels.

Besides 'wh' questions we can also form questions beginning with 'Do', 'Is', 'Can' etc. Such questions can be answered only in 'yes' or 'no'. Hence they are called yes/no questions.

Read the following questions and their answers:

Question: Do you know the harmful effects of noise?

Answer: Yes, noise causes hearing loss and many other diseases.

Question: Is there an escape from the bad effects of noise?

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Answer: Yes, we can take many steps to cut down noise pollution. and avoid its bad effects.

Question: Can you bake a cake?

Answer: No, I can't.

2. Form questions beginning with 'Do', 'Is' and 'Can' to which the following may be the answers.

a. Answer: Yes, noise can cause a lot of damage.

Question: Do you _____?

b. Answer: No, loud noise is not at all good for health.

Question: Is _____?

c. Answer: Yes, children can help to control noise pollution.

Question: Can _____?



10.4 LET US WRITE

Note making and summarizing are important study skills.

A. Note Making

You should make notes whenever you read or listen to anything important. While listening, you may note important words or phrases.

While reading it is better to make notes in the form of tables, flow charts etc. so that the organization plan of the entire reading passage can be seen at a glance.

Read the first part of the lesson "Noise: How it affects our lives" and fill in the notes in the plan given below:

Title: _____

Definition: _____

Examples: 1) _____

2) _____

3) _____

Measuring unit of sound: _____

Measuring instrument of sound: _____



Notes



Notes

Effect of Decibel level on ears: Zero _____

35 _____

45 to 75 _____

85 _____

100 _____

140 _____

Read Part 2 and 3 and make notes in the format given above.

B. Summarising

Read the following passage which is a summary of Part 1 of the lesson “Noise: How it affects our lives”

Today sound can be measured scientifically. The level of sound is measured in decibels by a decibel meter. Most people speak in the range of 45 - 75 decibels. This is comfortable on our ears, while a level above 100 decibels causes pain. We must, therefore, be careful about the amount of noise we make or hear.

Make similar summaries of Part 2 and Part 3 of the lesson.



WHAT YOU HAVE LEARNT

In this lesson you have learnt about noise pollution and its effects. Over a period of time, pollution has had its affects on land, water and air. But of late noise pollution has become a big problem. We use loud speakers to celebrate festivals and for functions, blare car horns and burst crackers but do we realize how much harm it causes? We are the ones who create noise so we should do our best to reduce noise and create a better environment. We can help the government and society to create an environment that is noise free by doing away with avoidable noise.



TERMINAL QUESTIONS

1. What happens if somebody is exposed to loud noise for a long period?
2. In what way can school children help reduce noise pollution?
3. Do you know why we cover our ears when there is too much of noise?
4. Can you guess how much the sound of thunder would measure in terms of decibels?



5. List out noises that you find intolerable and give suggestions to reduce them.
6. This Diwali what is the best gift you can present yourself and to others to lead a healthy life?



ANSWERS

10.2.1 PART 1

INTEXT QUESTIONS 10.1

1. A sound which is not pleasant and agreeable to our ears is noise.
2. Suggested answers are birds chirping, soft music, soft laughter, etc. for sound and tyres screeching, music from loud speakers, crackers etc as examples of noise
3. A decibel
4. Up to 75 decibels.
5. Individual responses.

Suggested responses: sounds of quarrelling, chalk against the black board, car horns because they are annoying, they cause headaches, they hurt my ears, they are loud.

II a. F b. T c. T d. F e. F

- III a. 45-75 decibels
b. 140
c. unpleasant/jarring
d. scientific
e. hearing loss/deafness

LET US LEARN NEW WORDS 10.1

1. Individual responses such as din, hubbub, row, tumult, clamour or other words associated with noise
2. (a) noise (b) sound (c) sound (d) noise
(e) sound (f) noise (g) noise
3. a. brakes b. heard c. panes d. herd
e. break f. pain g. bear h. bare
i. mail j. male



Notes

10.2.2 PART 2**INTEXT QUESTIONS 10.2**

1. (a) causes headaches
(b) causes deafness
(c) causes danger to the heart and blood vessels
2. Naseer was not aware of the damage caused by noise; we know this because he always boasted that he could sleep even when there was noise of traffic or television around him.
3. Naseer had frequent headaches.
4. Naseer had headaches because he used to be exposed to noise even when he was sleeping.
5. Individual responses such as he could use ear plugs, request his neighbours to reduce the volume of the television, move to a quieter locality etc
6. Blood vessels in the brain expand when we are exposed to noise.

LET US LEARN NEW WORDS 10.2

- | | | | |
|----------------|-----------|---------------|---------------|
| 1. a. deafness | b. danger | c. headache | d. discovered |
| 2. a. boast | b. expand | c. discovered | d. headache |

Activity

Individual responses.

Given below are some suggestive responses.

Avoidable noises

shouting
honking of horns
speaking very loudly
banging doors
slamming books
exploding crackers

Unavoidable noises

thunder
roar of airplanes
whistle of trains
running of buses
heavy rain and storm

ACTIVITY



Individual responses

Suggested responses: could be description of use of loud speakers beyond 10 pm, blaring of car horns near hospitals etc

10.2.3 PART 3

INTEXT QUESTIONS 10.3

1. When we are exposed to very loud noise.
2. We would stop creating unnecessary noise.
3. Unnecessary noise is generated.
4. Individual responses such as mixers, hair dryers, music systems, televisions etc. The noise irritates the members of the household, can't study, they ask us to switch it off, shut doors to keep out the noise etc

LET US LEARN NEW WORDS 10.3

- | | | |
|---------------------|-----------------|----------------|
| 1. a. inner | b. harmful | c. quieter |
| 2. a. identity card | b. timetable | c. ice cream |
| d. earthquake | e. dry- clean | f. water proof |
| g. High Court | h. God- fearing | i. blackboard |
| j. walking stick | | |

10.3 LET US LEARN GRAMMAR

1. a. Which instrument is used to measure sound?
b. What is a decibel zero sound equal to?
c. What happens if there is noise at 85 decibels?
d. When is actual pain felt?
2. a. Do you think noise can cause any damage?
b. Is loud noise good for health?
c. Can children help to control noise pollution?

10.4 LET US WRITE

A. Note making

Individual responses.

Suggested response:



Notes

Title:	NOISE – HOW IT AFFECTS OUR LIVES
Definition:	Any unpleasant noise is sound
Examples:	1) wail of fire engine 2) clap of thunder 3) screech of car tyres
Measuring unit of sound:	decibel
Measuring instrument of sound:	decibel meter
Decibel effect on ears:	
Zero	faintest sound
35	quiet
45 to 75	range for human speech
85	damages ears
100	hearing loss
140	pain in the ears

B. Summarising

Individual responses.

TERMINAL QUESTIONS

1. Hearing loss.
2. Individual responses.

Suggested responses: by walking quietly, talking softly, not burning crackers.

3. It is painful to our ears.
4. Individual responses.

Suggested responses: 100-145 decibels.

5. Individual responses.
6. Not explode any crackers.

Suggested responses: Noises that are intolerable are sound of loud speakers, car horns, crackers. Avoid the use of loud speakers, reduce its volume, and follow regulations regarding silence zones, stop bursting crackers.