

D. Let's understand the text :

1. What accident took place at Bhopal in 1984 ?
2. Why is it called an industrial accident ?
3. What were the tragic consequences of it ?
4. How is air important for man ?
5. What is the major source of contamination of the human body ?
6. What is the composition of air ?
7. When is air said to be polluted ?
8. What fuels do the industries use ?
9. How does the released smoke affect man ?
10. Why do thermal power stations cause more pollution ?
11. What are the other industries equally harmful for us ?
12. Why are the automobiles increasing on the road ?
13. How do the automobiles contribute to air pollution ?
14. What are the effects of air pollution on vegetable crops and trees ?
15. How are buildings affected by polluted air ?
16. What health problems are caused by polluted air ?
17. How is air pollution responsible for increasing the temperature ?
18. What harm can refrigerant do ?
19. What is acid rain ?
20. How is water affected by acid rain ?
21. What is the impact of acid rain on soil ?
22. What are the ways to control air pollution ?
23. How have different countries tried to check it ?
24. How have the air quality programmes brought us benefits ?
25. Why do we still need to find out better ways to control air pollution ?

E. Let's go beyond the text :

- (i)
1. Why does the oxygen level in the atmosphere get reduced ? What could be its consequences ?
 2. How do the chemical industries cause dangerous air pollution ? What is its far reaching consequences ?
 3. How is acid rain caused ?
 4. How does polluted air travel from one country to another ?
 5. What steps can be taken to reduce the pollution caused by automobiles` ?
Is air pollution a global problem ?
- (ii) Given below is a table. Read the text and complete the table.

Air Pollution	Caused by	Impact on	Nature of Damage
	industries		
			smoke and ash in air
	automobile		
		soil	
			destroying atmosphere layers

F. Let's do some activities :

1. Let's think together.

The text you have read mentions some steps to reduce air pollution. Now work in groups to suggest more steps for dealing with the problem. You can refer to newspapers, journals and discuss among yourselves to get more ideas (The teacher divides the class into four or five groups for the purpose)

2. Let's speak and listen.

Each group presents its ideas in the class regarding the steps to control air pollution. Other groups listen and react to the ideas.

After all the groups have presented ideas, commonly agreed aspects should be finalized (The teacher acts as the observer and coordinator.)

3. Let's write :

Write a letter to the Editor of a newspaper / the Minister, Department of Environment explaining the importance of clean air and suggesting ways to keep it clean and pure.

4. Let's debate:

Some speak 'for' the motion and some 'against'. The teacher acts as Chairperson.

- i) Use of private vehicles should be banned to control air pollution.
- ii) Industries being the major source of pollution need to be disestablished.

G. Let's enrich our vocabulary :

- i) There are some words / phrases in the text used to convey the harmful effects of air pollution on mankind.

A few examples are given : deadly, irritating gases

Pick out the other such words / expressions from the text and write in your copy.

- ii) (a) The word 'respiration' is the noun form of the verb 'respire' : Now with the help of a dictionary find out verb / noun forms of the following.

Noun	Verb	Verb	Noun
Resident		Consume	
Pollution		Alter	
Composition		Believe	

Inhalation	Reduce
Emission	Produce
Comparison	Operate
Knowledge	Expect
Recovery	Represent
Destruction	Radiate
Contamination	Illustrate
Precipitation	Justify
Deterioration	Prevent

(b) Arrange the words provided under **noun** and **verb** in the order in which they should come in a dictionary.

iii) Read the sentences below :

..... buildings of Krakow are slowly being destroyed by acidic smog.

Mark the word underlined. Two words, i.e. 'smoke and fog' (smoke + fog) have formed the word 'smog'. Such process of word formation is known as **blending**. Many new words are being made in this process and are increasingly in use. Given below is an exercise. Complete it.

Foreign + exchange bank = bank

..... + policy = exim policy

Slim + tender =

..... + = telecast

iv) Given below are some expressions. Use a single word for each expression. Go to the text to find the words.

a great threat

getting worse day by day

things used to make something

a body of laws

one who studies weather conditions.

H. Let's learn language :

a) Mark the following sentences used in the text :

- i) irritating gases enter the atmosphere.
- ii) Every day, every moment we breathe polluted air to become a victim of air pollution.

The words underlined above are known as 'participle adjectives'.

Here 'irritating' is the present participle adjective and 'polluted' is the past participle adjective in the above sentences.

Find out in the text how many such participles are there and make a list.

Present Participle _____, _____, _____, _____,

Past Participle _____, _____, _____, _____,

Complete the following sentences with appropriate participles of the verbs given in brackets.

- 1. The beggar is wearing a shirt. (tear)
- 2. My father bought me a suit. (swim)
- 3. My friend wanted a instrument .(clean)
- 4. I never like to take a egg. (boil)
- 5. Air pollution causes problem. (breathe)
- 6. People get deceased in a atmosphere. (pollute)
- 7. Air pollution has effect on buildings. (damage)
- 8. Severity of air pollution is more found in countries. (develop)

b) Punctuate the following text :

In the United States control of air pollution is chiefly the responsibility of the state and local governments all the states have air quality management programmes which are patterned after federal laws the basic federal law dealing with air pollution is the clean air act of 1970 amended in 1990 under this law the federal environment protection agency sets standards for air quality what are the standards.

I. Let's prepare a Project :

You live in a locality. You might have experienced some sort of pollution in your locality. It might be pollution of air or water or soil or could be noise pollution. Survey your area with a focus on the **nature of pollution, its ill effects, causes of pollution** and **measures to control** the same. Analyse and interpret the data/ information collected. Write all these in a project format.

(It could be an individual or group project.)



From the Formalin Jar

Dr. Reeta S. Mani



A. Lead-in :

Do you know that road accidents are very common in India nowadays? You will be shocked to know that 152,000 people died in India, including 5315 in Odisha in 2018 as a result of road accidents. The number of those who get injured or disabled is nearly three to four times higher than the number of deaths. Increasing incidences of traffic violation and lack of awareness about safety rules have turned out to be the major factors of such deaths. The WHO (World Health Organisation) has identified five major risk factors of road injuries such as speed, alcohol, seat belt, helmet and visibility. We can also add distracted driving such as using cell phones or listening to music while driving, besides tiredness and unsafe roads as the major reasons for death.

Let's read an interesting poem '**From the Formalin Jar**' to know about road safety.

B. Let's listen to the poem :

- Listen to your teacher as s/he reads the poem aloud with proper rhythm. Don't open your books while listening.
- Your teacher will read it aloud for the second time. You listen to him/her. Then read the poem silently and answer the questions that follow.

C. The Text :

Hi ! I am Vicky's brilliant brain
Sitting in a formalin jar with disdain;
On display to promote knowledge gain
Watching people stare at me again and again.

How insulting to be called a 'specimen'
Two years ago I was part of a living human;
I got no stroke, tumour or bugs within
Yet ended up in this jar, to my chagrin.

Vicky was a young boy, smart and sane
Full of life and vigour, sun, wind or rain;
Computers and maths were his domain
His motto in life was 'No pain, No gain'.

Vicky's love for his parents was truly insane
And he adored his gran'ma, wrinkles and cane;
In college, when he stole a glance at Lorraine
Why his heart went thud-thud, only I could explain!

On a wet monsoon day, for a task mundane
Vicky rode his bike to his friend in the next lane;
For once, from wearing his helmet he did refrain
God! He met with an accident gory and inhumane.

All it took was a stray moment inane
A young life lost, a family crushed with pain;
Dear friends, take care; risky driving can be bane
DRIVE SAFE- let your precious life not be in vain!

D. About the Poet :

Dr. Reeta S. Mani is a doctor by profession and a writer by passion. She is a Neurovirologist at the National Institute of Mental Health and

Neurosciences (NIMHANS), Bengaluru. Dr. Reeta has published (online and in print) several short stories, poems, essays and travelogues, including several short stories for children. She loves to weave health information into her stories to educate and foster inquisitiveness in children.

E. About the Poem :

This poem (***From the Formalin Jar***) was written in September 2013 to create awareness about 'Safe Driving' and other road safety rules in the community and published online at *youthspring.net*, a forum for nurturing youth well-being. Road traffic injuries are the leading causes of death and disabilities, especially among children and young adults. This heart-breaking poem conveys how a moment of simple carelessness cost a young, lively and caring boy his precious life.

NIMHANS has a unique Human Brain Museum where many brain specimens affected by various disease conditions (like infection, tumor, stroke, injury and neurological disorders, etc.) are preserved in formalin and displayed in see-through jars. One of the brain specimens is from an unfortunate accident victim who succumbed to head-injuries. Perhaps, he would not have lost his life had he worn a helmet while driving his two-wheeler. 'Vicky' is a fictional character created by the poet for this poem, as she tenderly reflects on the individual behind the 'brain specimen' in the formalin jar, whose life was tragically cut-short in a road accident.

The poem teaches a lesson that age, fame, beauty, strength or wisdom becomes meaningless unless a person is careful about his safety.

E. Notes and Glossary

formalin : a simple chemical compound made of hydrogen, oxygen and carbon

disdain	: the feeling that someone, or something is unworthy of respect
stare	: to look at somebody, or something for a long time
specimen	: sample
stroke	: sometimes called a 'brain attack', it occurs when blood supply to an area in the brain is cut off.
tumour	: a mass of cells growing in or on a part of the body, usually causing medical problems
bug	: an infectious illness that is usually fairly mild
chagrin	: a feeling of unhappiness, disappointment or annoyance
smart	: looking clean and neat, well dressed in new and attractive
sane	: having a normal healthy mind/sound health (not mentally ill)
vigour	: energy/force/enthusiasm
domain	: an area of knowledge, or activity
motto	: aims and beliefs of a person
No pain, No gain	: It is necessary to work hard or suffer in order to gain success in life
insane	: (here) excessive
adored	: loved very much
wrinkles	: lines on the skin due to old age etc.
cane	: stick (walking stick)
mundane	: ordinary, not intensive or exciting, not important
refrain	: to stop yourself from doing something
gory	: involving a lot of blood/bloodshed
inhumane	: cruel, unkind
stray	: separated from others
inane	: stupid or silly
crushed	: suffered
bane	: cause of misery, opposite of boon, curse
in vain	: useless, or unsuccessful

F. Let's understand the Poem :

1. What is this poem about?
2. Where is Vicky's brilliant brain?
3. Why is the brain put inside the formalin jar?
4. Who does 'I' refer to in the poem?
5. How does the brain feel inside the jar?
6. Who is the brain talking about?
7. What does the brain say about Vicky?
8. Do you think that Vicky and the brilliant brain are two persons?
Why ?
9. Which were Vicky's favourite subjects ?
10. What was the motto of his life ?
11. Was Vicky good at studies ? How do you know this?
12. Vicky loved his parents. Which line says so?
13. Which word says that Vicky loved his grandmother very much?
14. What else, besides studies, did Vicky do during his college days?
15. Who was Lorraine? Why did he steal a glance at her ?
16. Why does the poet say that only the brain could explain the cause of Vicky's heart-beat; thud-thud?
17. Read the stanza 5 and stanza 6 again. What are they about ? How are they different from others ?
18. Where was Vicky riding ? When and why ?
19. Where was his friend's house? Was it very far?
20. Why did he go to his friend?
21. What caused the accident ? Which words in the poem describe the accident ?