

INTERMEDIATE

Noise pollution is a serious threat to the quality of man's environment. Noise, by definition, is over-loud or disturbing sound. Sound levels are measured in decibels (dB). It is a unit for expressing the relative intensity of sound on a scale from 0 to 130.

Noise is unwanted sound and has become a part of urban life and industrial centres in this century. Noise pollution may come from loudspeakers, factories, aeroplanes, moving trains, construction activity or even a radio.

Noise level of 80 decibels or more for more than 8 hours a day increases tension and changes in breathing patterns. Continued exposure to high levels of noise results in fatigue, hearing loss or even total loss of hearing, changes in blood circulation, changes in breathing, etc. Noise pollution above 120 decibels can cause many adverse biochemical changes. Cholesterol levels in the blood and white cell counts increase, besides causing hypertension.

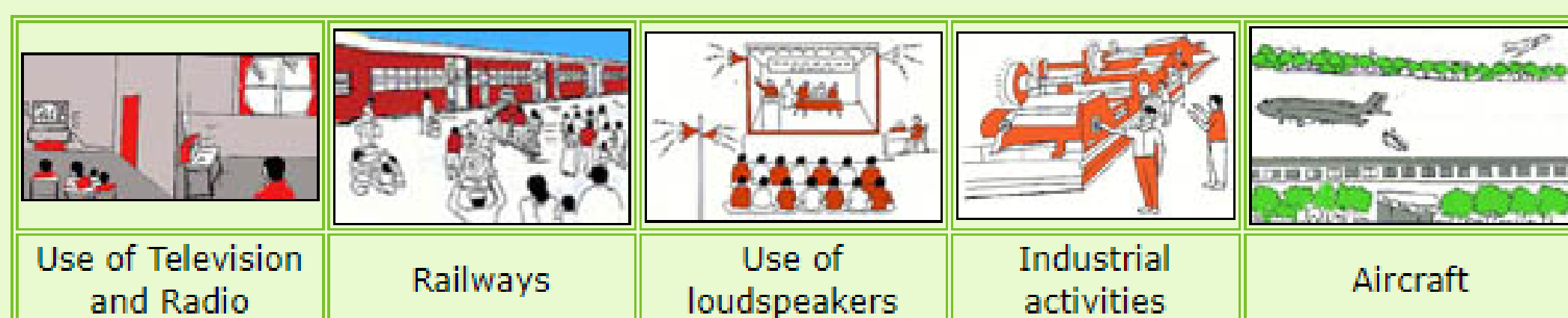
Effects of Noise Pollution

- Even short exposure to noise can produce temporary hearing losses.
- Prolonged exposure to noise can lead to a gradual deterioration of the inner ear and subsequent deafness.
- Constant noise causes the blood vessels and muscles to contract. This causes a gradual loss of hearing, tension, nervousness and psychiatric illness. High intensity sounds emitted by many industries and supersonic aircraft, when continued for long periods of time not only disturb but also permanently damage hearing.
- Noise has harmful effects on non-living materials too. Numerous examples can be cited where old buildings and even new constructions have developed cracks under the stress of explosive sounds.



Sources of Noise

The major sources of noise are



Psychological and physical effects of noise at different decibel levels (db)

Noise Level in decibels	Source	Effects
135	pneumatic drill	painful
110	rock band	discomfort
88	industry / city traffic	hearing impairment on prolonged exposure
80	alarm clock	annoying
65	average city traffic	intrusive

Summary of recommended noise exposure limit (World Health Organisation - 1980)

Environment	Recommended Maximum level	Effects
Indoor / Domestic Night	35dB	Increased awakening at higher levels
Indoor / Domestic Day	45dB	Speech communication deteriorates at higher levels
Community / Urban Night	45dB	Difficulty in falling asleep at higher level
Community / Urban Day	55dB	Annoyance increases at higher levels
Industrial / Occupational	75dB	Predictable risk of hearing impairment at higher levels

Control of Noise Pollution

- A green-belt effectively reduces the noise.
- A 20 foot wide plantation inside the compound protects the house from the noise of vehicular traffic.
- Decibel metres should be installed along highways and in factories to check and control the intensity of noise pollution.
- Specific legislation and regulations should be proposed for designing and operation of machines to include vibration control, sound-proof cabins and sound-absorbing materials.
- In metropolitan areas a green belt of vegetation and open spaces in general may have a great value in noise control as in air purification. It has been seen that plants are efficient absorbers of noise, especially noise of higher frequency. Plants can also absorb aeroplane noise, so a green belt should be planted around airports.
- Loud speakers, which have become a part of festivals, weddings and prayers are banned in most places. The playing of loud speakers should be reported immediately to the police.